

Contingency Management for the Treatment of Stimulant Use Disorders

Appendix B

SUMMARY OF STUDIES (LISTED IN CHRONOLOGICAL ORDER)

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
#1: Higgins, S. T., Budney, A. J., Bickel, W. K., Badger, G. J., Foerg, F. E., & Ogden, D. (1995). Outpatient behavioral treatment for cocaine dependence: One-year outcome.	USA	Experimental	<ul style="list-style-type: none"> • Trial 1: Community reinforcement approach (CRA) with vouchers vs drug abuse counseling • Trial 2: CRA with vouchers vs CRA only • 24 weeks. • 9- & 12-month follow-up. 	n=78 adults in outpatient behavioral treatment for cocaine dependence	Drug use: Abstinence at 6-months (end of treatment), 9- and 12-month follow-up.	Higher percentages of those who received contingency management (CM) in both studies achieved at least 4, 8, and 16 weeks of continuous abstinence compared to the comparison groups, with a statistically significant difference. Post-treatment and follow-up assessment comparisons showed that even though abstinence levels were higher for the CM group, the difference between CM and comparison group was not significant. In trial 1, at the 6-month, 9-month, and 12-month assessments, 72%, 88%, and 96% of participants in the CRA plus CM group were abstinent, respectively, compared to 67%, 69%, and 69% in the comparison group. In trial 2, at the same assessment points, 80%, 70%, and 65% of participants in the CRA plus CM group were abstinent, respectively, compared to 75%, 65%, and 60% in the comparison group.



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#2: Elk, R., Mangus, L., Rhoades, H., Andres, R., & Grabowski, J. (1998). Cessation of cocaine use during pregnancy: Effects of contingency management interventions on maintaining abstinence and complying with prenatal care.	USA	Experimental	<ul style="list-style-type: none"> Multifaceted treatment (including prenatal care, drug counseling, and HIV counseling) alone vs multifaceted treatment plus CM. 4-26 weeks. No follow-up. 	n=59 pregnant cocaine-dependent women	<ul style="list-style-type: none"> Drug use: Percentage of cocaine-free urine samples, percentage of other drug use. Other: Retention in treatment, compliance with prenatal visits, occurrence of any of four adverse perinatal outcomes associated with cocaine use and/or poor prenatal care and change in Addiction Severity Index (ASI) composite scores. 	Analyses showed that 100% of the urine samples in the CM group tested negative for cocaine compared to 98% in the non-CM group. There was no statistically significant difference in abstinence between the two groups. Authors found high retention rates for all the groups without a statistically significant difference among a sample of pregnant women with cocaine use disorders receiving a multifaceted treatment.
#3: Higgins, S. T., Wong, C. J., Badger, G. J., Ogden, D. E. H., & Dantona, R. L. (2000). Contingent reinforcement increases cocaine abstinence during outpatient treatment and 1 year of follow-up.	USA	Experimental	<ul style="list-style-type: none"> CRA + CM (contingent on recent cocaine abstinence) vs CRA with incentives that were provided independent of urinalysis results (noncontingent condition). 24 weeks. 12-month follow-up. 	n= 70 adults with cocaine use disorders	<ul style="list-style-type: none"> Drug use: Cocaine abstinence (percentage of patients in each condition who achieved at least 4, 8, and 16 weeks of continuous cocaine abstinence), and other drug use (compared percentages of participants in each treatment condition who had at least one positive urine toxicology test result for a particular substance during the 24 weeks of treatment). Retention: Percentage of participants in each treatment condition who were retained through 12 and 24 weeks of treatment. 	CRA plus CM group had better abstinence outcomes than the non-contingent incentives group. A higher percentage of the CRA plus CM group had 8 or more, 12 or more, and 16 or more weeks of abstinence compared to the non-contingent incentives group. However, only the difference for the 12 or more weeks of abstinence was statistically significant. The CM group showed statistically significantly higher levels of sustained continuous abstinence at follow-up compared to the non-contingent group. A higher percentage of participants in the CM group (19%) were abstinent throughout the entire posttreatment follow-up period compared to those in the non-contingent condition (6%), however the difference was not significant. Slightly higher percentage of those in the non-contingent group (79%) completed 12 weeks of treatment compared to those in the CM group (72%) whereas slightly higher percentage of participants in the CM group (56%) completed 24 weeks of treatment, compared to non-contingent group (53%). Both comparisons showed no statistically significant differences.

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#4: Milby, J. B., Schumacher, J. E., McNamara, C., Wallace, D., Usdan, S., McGill, T., & Michael, M. (2000). Initiating abstinence in cocaine abusing dually diagnosed homeless persons.	USA	Experimental	<ul style="list-style-type: none"> Behavioral day treatment (DT) alone vs DT plus abstinent contingent housing and work therapy (DT+). 6 months. 2-, 6-, & 12-month follow-up. 	n=110 dually diagnosed homeless individuals with cocaine use disorder.	<ul style="list-style-type: none"> Drug use: Percentage of days abstinent in the last 60 days as determined from the percentage of random urine samples over the 60-day period prior to the 2- and 6-month assessment points that were drug free. Retention: Attending at least four morning treatment sessions (Phase 1) and attending two or more aftercare sessions (Phase 2). 	Analyses showed that DT+ group had statistically significantly higher percentage of days abstinent at 2 and 6 months (71% and 41%, respectively) compared to DT alone group (41% and 15%, respectively). There was also a statistically significant difference in the length of abstinence between the two groups at two- and six-month assessments. The DT+ group averaged about five consecutive weeks of abstinence at two months and 9.5 weeks at six months, whereas DT alone group averaged about three consecutive weeks of abstinence at two months and four weeks at six months. Among the total of N=110 participants, 80.9% were identified as Phase I treatment exposed (89.3% for DT+ and 72.2% for DT), and 40% were identified as Phase II treatment exposed (53.6% for DT+ and 25.9% for DT). An analysis of the numbers of treatment-exposed individuals in each group at 2 and 6 months revealed significant differences favoring DT+.
#5: Petry, N. M., Tedford, J., Austin, M., Nich, C., Carroll, K. M., & Rounsaville, B. J. (2004). Prize reinforcement contingency management for treating cocaine users: How low can we go, and with whom?	USA	Experimental	<ul style="list-style-type: none"> Standard care (SC) vs SC plus low magnitude CM (max. \$80) vs SC plus high magnitude CM (max. \$240) 12 weeks. No follow-up. 	n=120 intensive outpatient treatment-initiating individuals who were dependent on cocaine.	<ul style="list-style-type: none"> Drug use: Longest duration of abstinence from cocaine, opioid and alcohol combined; Percent of negative cocaine samples. Retention: Number of days that elapsed between when the first and last study urine samples were submitted. Attendance: Number of counseling sessions attended during the 12-week study, including individual, group, and family counseling sessions. 	The researchers found statistically significant differences between the three groups with participants in the high-magnitude (\$240) CM condition achieving longer periods of continuous abstinence and submitting the highest percentage of drug-free specimens. There were no statistically significant differences in retention across groups. However, patients in the \$240 CM condition had the highest treatment completion rate (31.6%) in relation to other groups, including the standard condition (13.5%) and the \$80 CM condition (20.0%).

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<p>#6: Shoptaw, S., Reback, C. J., Peck, J. A., Yang, X., Rotheram-Fuller, E., Larkins, S., ... & Hucks-Ortiz, C. (2005). Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • Cognitive-behavioral therapy (CBT) alone vs CM alone vs CBT plus CM vs Culturally tailored CBT (GCBT) alone. • 16 weeks. • 6- & 12-month follow-up. 	<p>n=162 methamphetamine-dependent gay and bisexual men.</p>	<ul style="list-style-type: none"> • Drug use: Treatment Effectiveness Score (TES); Percent of metabolite-free urine samples; Longest period of consecutive metabolite-free urine samples (in days). • Retention: Days from the date of randomization to the last date of clinic attendance. 	<p>The highest number of methamphetamine and cocaine-negative urine samples were observed for the CBT plus CM group, followed by the CM-only, GCBT, and CBT alone groups, respectively. The CM and CBT plus CM conditions showed a comparable trend regarding the duration of continuous abstinence.</p>

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<p>#7: Petry, N. M., Peirce, J. M., Stitzer, M. L., Blaine, J., Roll, J. M., Cohen, A., ... & Li, R. (2005). Effect of prize-based incentives on outcomes in stimulant abusers in outpatient psychosocial treatment programs: A national drug abuse treatment clinical trials network study.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • Usual care (UC) vs UC plus abstinence-based CM. • 12 weeks. • No follow-up. 	<p>n=415 drug abusing patients in community treatment settings</p>	<ul style="list-style-type: none"> • Drug use: Overall percentage of submitted samples that were free of each target drug (stimulants, alcohol, opioids, and marijuana); Percentage of samples submitted that were free of stimulants and alcohol at each of the 24 study visits; Total number of stimulant and alcohol-free samples submitted by each participant; The longest duration of abstinence (LDA) from the primary target drugs for each participant. • Retention: Number of days that elapsed between when the first and last study urine samples were submitted) • Attendance: Number of counseling sessions attended during the 12-week study. 	<p>The authors found that the proportion of negative samples in the CM condition was statistically higher than the usual care condition. The CM group had almost four times the number of participants who achieved 12 weeks of abstinence, with an overall adjusted mean of 8.4 weeks for CM participants and 4.8 weeks for usual care participants. The authors found that participants assigned to the CM condition were significantly more likely to be retained than those assigned to usual care. By the end of 12 weeks, 49% of CM participants were still retained vs 35% of the usual care participants. On average, participants in the CM condition (mean=19.2) attended significantly more counseling sessions on average during the 12-week study period compared with the participants in the usual care condition (mean=15.7).</p>

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<p>#8: Rawson, R. A., McCann, M. J., Flammino, F., Shoptaw, S., Miotto, K., Reiber, C., & Ling, W. (2006). A comparison of contingency management and cognitive-behavioral approaches for stimulant-dependent individuals.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • CM alone vs Cognitive-behavioral therapy (CBT) alone vs CM + CBT. • 16 weeks. • 17-, 26-, & 52-week follow-up. 	<p>n=177 stimulant-dependent individuals.</p>	<ul style="list-style-type: none"> • Drug use: Number of urine samples free of cocaine/MA metabolite over the course of the trial); Abstinence over 3 consecutive weeks during treatment period; Number of days in which the patient reported use. • Retention: Mean number of weeks that participants remained in treatment) 	<p>CM and CBT plus CM group had more stimulant-negative urine samples than did the CBT-only group. 69% of the CBT plus CM group, 60% of the CM group, and 34% of the CBT-only group achieved three weeks of abstinence during treatment. The two groups that received CM showed a significant difference compared to the CBT-only group, but they did not significantly differ from each other. At the 17-, 26- and 52-week follow-up assessments, the percentage of participants with stimulant-negative samples ranged from 67% to 79% for all the groups, and there were no significant differences between the groups. Authors found a significant relationship between treatment type—which included CM, CBT, and CBT plus CM—and mean length of stay in treatment among a sample of participants with stimulant dependence. Compared to the CBT-only group, participants in the CM and CBT plus CM groups had significantly higher average length of stay in treatment (CBT-only mean= 9 weeks; CM mean=13 weeks; CBT mean=12 weeks). CM and CBT plus CM groups had significantly higher percentages of participants who completed the full 16 weeks of treatment compared to CBT-only group (63%, 59%, and 40%, respectively).</p>

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#9: Roll, J. M., Huber, A., Sodano, R., Chudzynski, J. E., Moynier, E., & Shoptaw, S. (2006). A comparison of five reinforcement schedules for use in contingency management-based treatment of methamphetamine abuse.	USA	Experimental	<ul style="list-style-type: none"> Schedule 1: Flat magnitude CM with no bonuses or resets vs Schedule 2: Slowly escalating CM with large bonuses and no resets; Schedule 3: High initial magnitude CM with slow escalation of voucher magnitude and no bonuses or resets vs Schedule 4: High initial magnitude CM that decreased rapidly with moderate bonuses and no resets; Schedule 5: Low initial magnitude CM with moderate escalation, moderate bonuses and resets. 12 weeks. No follow-up. 	n=83 adults with methamphetamine use disorders	<ul style="list-style-type: none"> Drug use: Mean number of metabolite-free urine samples provided; Longest period of uninterrupted abstinence as measured using urine samples (number of tests); Mean number of tests that occurred in each condition prior to producing the first methamphetamine-negative test result; Number of participants who relapsed following a 4-week period of abstinence. Retention: Attendance at weekly appointments. 	Schedule 5 generally outperformed other schedules on abstinence outcomes. It facilitated the onset of abstinence more quickly than Schedules 1 or 2 and showed similar effectiveness to Schedules 3 and 4 in this aspect. Regarding the length of abstinence, no notable differences were observed among the various schedules, although Schedule 5 yielded slightly longer periods of continuous abstinence compared to others. Session attendance was greater for Schedules 5 and 3 compared to Schedule 1.
#10: Roll, J. M., & Shoptaw, S. (2006). Contingency management: Schedule effects.	USA	Experimental	<ul style="list-style-type: none"> Escalating CM with reset vs Escalating CM without. 12 weeks. No follow-up. 	n=18 adults with methamphetamine use disorders	<ul style="list-style-type: none"> Drug use: Percentage of meth free samples; Longest periods of continuous abstinence. 	80% of the participants in the escalating with reset condition vs. 38% in the escalating without reset condition submitted methamphetamine-negative urine samples. Participants in the escalating with reset condition also achieved longer periods of abstinence (mean= 6.7 weeks) compared to the participants in the other condition (mean= 2.8 weeks). Both findings were statistically significant.

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#11: Shoptaw, S., Huber, A., Peck, J., Yang, X., Liu, J., Dang, J., ... & Ling, W. (2006). Randomized, placebo-controlled trial of sertraline and contingency management for the treatment of methamphetamine dependence.	USA	Experimental	<ul style="list-style-type: none"> Sertraline plus CM vs Sertraline-only vs Matching placebo plus CM vs Matching placebo only. 12 weeks. No follow-up. 	n=228 adults with methamphetamine use disorder	<ul style="list-style-type: none"> Drug use: Number of metabolite-positive urine samples; Percentage of participants who achieved at least 3 weeks of consecutive methamphetamine metabolite-free urine samples. Retention: Number of days from randomization to completion or early termination from the study; Number of relapse prevention groups attended; Percentage of participants who completed all 14 weeks of the trial; Average length of stay during the 12 weeks of the medication phase across all conditions. 	More participants in the sertraline plus CM (43%), placebo plus CM (52%), and placebo-only (42%) compared to sertraline-only group (25%) had at least three consecutive weeks of abstinence from methamphetamine and the difference was statistically significant. When comparing participants who received CM versus those who did not, regardless of the medication usage, a statistically significant difference was found. Specifically, a higher percentage of participants receiving CM (47.0%) achieved three consecutive weeks of abstinence compared to those not receiving CM (33.3%). Authors also found a significant difference between CM plus medication versus medication only among a sample of participants with methamphetamine use disorder. They found that participants assigned to sertraline plus CM (mean= 19.5 sessions), placebo plus CM (mean=20.9 sessions) and placebo-only groups (mean=18.3) attended significantly higher number of relapse prevention sessions than the sertraline-only group (mean=13.5).
#12: Tracy, K., Babuscio, T., Nich, C., Kiluk, B., Carroll, K. M., Petry, N. M., & Rounsaville, B. J. (2007). Contingency management to reduce substance use in individuals who are homeless with co-occurring psychiatric disorders.	USA	Experimental	<ul style="list-style-type: none"> Assessment-only treatment condition vs CM. 4 weeks. No follow-up. 	n=30 homeless individuals with co-occurring psychiatric disorders	<ul style="list-style-type: none"> Drug use: Self-reported percentage of days with no cocaine or alcohol use; Objective number of positive urine and breathalyzer specimens. Retention: Number of attended sessions. 	Overall, authors reported that substance use was low during the 4-week trial with participants in both groups averaging 85% days with no cocaine use (CM = 96%, assessment-only = 75%) with similar percentages for days no alcohol use. Participants in the CM group reported significantly fewer days of cocaine use and made greater reductions in the frequency of cocaine use overtime, as compared to the assessment-only group. Those who were randomized to the CM condition, 86.6% (26) completed the post treatment assessment and 13.3% (4) did not complete the study. All participants who did not complete the study were in the assessment-only condition.

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<p>#13: Milby, J. B., Schumacher, J. E., Vuchinich, R. E., Freedman, M. J., Kertesz, S., & Wallace, D. (2008). Toward cost-effective initial care for substance-abusing homeless.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Behavioral day treatment plus CM (CM+) vs CM alone (CM). 24 weeks. 25-78 weeks follow-up. 	<p>n=206 cocaine-dependent homeless individuals</p>	<ul style="list-style-type: none"> Drug use: the proportion of clean urines exhibited by an individual in a period; the longest string of consecutive weeks abstinent for an individual. Retention: Time to the last urine supplied during the first 24 weeks; Attendance during treatment (average quarter-hour units of treatment per day). 	<ul style="list-style-type: none"> During the active treatment phase, CM+ group had slightly higher abstinence levels than CM-only group, but the difference was not statistically significant. Both groups showed high abstinence with more than 50% of the participants in each group being abstinent on a weekly basis. During the active treatment phase, CM+ had a mean of about 13 weeks of consecutive abstinence whereas CM-only group had a mean of about 11 weeks of consecutive abstinence. Even though CM+ group had longer consecutive weeks of abstinence on average, the difference was not significant. When the consecutive weeks of abstinence was examined for 52-week (includes with and without treatment periods), CM+ group had statistically significantly higher consecutive weeks of abstinence on average (mean= 19 weeks) compared to CM-only (mean=14 weeks) group. Level of treatment attendance had a statistically significant relationship with abstinence in each group. As such, greater attendance was associated with longer weeks of consecutive abstinence and a higher percentage of drug-free urine samples. Both groups showed nearly identical retention lengths (CM+=19.7 vs CM=20.4) with no statistically significant difference.

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<p>#14: Garcia-Rodriguez, O., Secades-Villa, R., Higgins, S. T., Fernandez-Hermida, J. R., Carballo, J. L., Errasti Perez, J. M., & Diaz, S. A. H. (2009). Effects of voucher-based intervention on abstinence and retention in an outpatient treatment for cocaine addiction: A randomized controlled trial.</p>	<p>Spain</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Standard outpatient treatment vs community reinforcement approach (CRA) plus low monetary value vouchers vs CRA plus high monetary value vouchers. 6 months. No follow-up. 	<p>n=96 adults with cocaine use disorder</p>	<ul style="list-style-type: none"> Drug use: Percentage of cocaine-negative samples; Duration of continuous cocaine abstinence (months); Duration of continuous cocaine abstinence (%) after month 1-6. Retention rate at 6 months (%). 	<p>The mean percentage of the cocaine-negative urine samples in the high-value and low-value CM were higher (97% and 96%, respectively) compared to the standard treatment (88%) and the difference was statistically significant with a medium to large effect size. The high-value CM group had significantly higher mean duration of continuous abstinence with an averaging four months compared to standard treatment averaging 2.5 months. The low-value CM group had an average of 3.5 months of continuous abstinence. Only the difference between high-value CM and standard treatment was significant with a medium to large effect size. When looking at achieving abstinence for one to six months during treatment, percentages in both CM conditions were consistently higher than those in the standard treatment group. There was a statistically significant difference between high-value CM and standard treatment in the percentage of participants who achieved continuous abstinence for a duration of two months or more, three months or more, and four months or more. The only statistically significant difference between low-value and standard treatment was in four or more months of abstinence. All differences indicated a medium effect size. The high value and low value CM group did not significantly differ. Lastly, 38% of the participants in the high-value CM group stayed abstinent throughout the six months of the treatment, compared with low-value CM group (33%) and the standard treatment group (21%). It is unclear if those percentages were statistically different from one another. CM group with high voucher value had a greater number of weeks in treatment on average (mean=19 weeks) than the standard treatment (mean=14 weeks) and the difference was statistically significant. However, CM group with low voucher value (mean=17 weeks) did not differ significantly from the standard treatment.</p>

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<p>#15: Reback, C. J., Peck, J. A., Dierst-Davies, R., Nuno, M., Kamien, J. B., & Amass, L. (2010). Contingency management among homeless, out-of-treatment men who have sex with men.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> HIV prevention program plus CM vs HIV prevention program alone. 24 weeks. 9- & 12-month follow-up. 	<p>n=131 homeless men who have sex with men</p>	<ul style="list-style-type: none"> Drug use: Total number of substance metabolite-free urine samples provided by each participant during the intervention period compared to the total number of scheduled urine samples (TES); Percent of negative urine samples for each treatment condition. Retention: Overall completion rates. 	<p>The CM condition yielded significantly more drug metabolite-free urine samples per substance and overall compared to the control condition over 24 weeks. The likelihood of providing a level 1 metabolite-free urine sample was nearly doubled in the CM condition versus control. The authors were unable to assess the outcomes for level 2 substances due to fewer instances of opioid use, so instead they compared marijuana use outcomes between the two conditions and found no significant differences. During the 9- and 12-month follow-up assessments, participants in the CM group were nearly twice as likely as control participants to be abstinent from stimulants and alcohol. There was no difference between the attendance rates among men who had sex with men enrolled in HIV prevention program along with CM or without CM.</p>

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<p>#16: Schmitz, J. M., Lindsay, J. A., Stotts, A. L., Green, C. E., & Moeller, F. G. (2010). Contingency management and levodopa-carbidopa for cocaine treatment: A comparison of three behavioral targets.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Six treatment groups consisting of levodopa-carbidopa or placebo administered in combination with CM targeting one of three behaviors: (1) clinic attendance (CM-ATTEND); (2) medication compliance (CM-MEDICATION); (3) cocaine negative urine toxicology (CM- URINE). 12 weeks. No follow-up. 	<p>n=136 adults with cocaine use disorder</p>	<ul style="list-style-type: none"> Drug use: Proportions of cocaine-negative urine samples. Retention: Treatment attendance. 	<p>CM-URINE with levodopa-carbidopa treatment produced higher proportions of cocaine-negative urine samples compared to CM-URINE with placebo and the difference was statistically significant. In placebo conditions, CM-URINE did not significantly differ from CM-ATTEND and CM-MEDICATION on the proportion of cocaine-negative urine samples. In levodopa conditions, CM-URINE group had significantly higher proportion of cocaine-negative urine samples, compared to CM-ATTEND and CM-MEDICATION. Proportions were not reported. The overall percentage of participants staying in treatment dropped from 51% at week 6 to 35% at week 12. There were no significant differences between the groups; however, CM-ATTEND group appeared to stay in treatment longer with no statistically significant difference. The number of clinic visits during treatment decreased for all participants over time, but it decreased more for the CM-MEDICATION and CM-URINE groups compared to the CM-ATTEND group with a statistically significant difference. The CM-URINE and CM-MEDICATION groups had a decreased likelihood of attending a clinic visit, while for the CM-ATTEND group, the decrease was not statistically significant.</p>

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#17: McKay, J. R., Lynch, K. G., Coviello, D., Morrison, R., Cary, M. S., Skalina, L., & Plebani, J. (2010). Randomized trial of continuing care enhancements for cocaine-dependent patients following initial engagement.	USA	Experimental	<ul style="list-style-type: none"> • CM vs Cognitive-behavioral relapse prevention (RP) vs CM plus RP. • 12 – 20 weeks. • 3-, 6-, 9-, 12-, 15-, & 18-month follow-up. 	n=100 adults with cocaine use disorder	<ul style="list-style-type: none"> • Drug use: Number of cocaine-positive samples. • Retention: Number of sessions attended. 	Compared to other groups, CM plus RP group had the lowest number of cocaine-positive urine samples across all follow-up points, followed by the CM group. Participants in both CM conditions had significantly better cocaine use outcomes than those who did not receive CM. Paired comparisons of treatment groups showed that CM plus RP condition produced lower rates of cocaine-positive urines than did TAU and RP at 6- and 9-month follow-up assessments, and it was the only statistically significant finding. Participants in the CM plus RP group attended a significantly higher number of sessions on average (mean=13 sessions), compared to those in the RP group (mean= 3 sessions).
#18: Menza, T. W., Jameson, D. R., Hughes, J. P., Colfax, G. N., Shoptaw, S., & Golden, M. R. (2010). Contingency management to reduce methamphetamine use and sexual risk among men who have sex with men: A randomized controlled trial.	USA	Experimental	<ul style="list-style-type: none"> • CM vs Control group (referral to community resources). • 12 weeks. • 12-week follow-up. 	n=127 methamphetamine using HIV-negative men who have sex with men	<ul style="list-style-type: none"> • Drug use: Number of cocaine-positive samples. • Retention: Percentage of men that attended visits. 	CM group submitted more stimulant positive samples (except for cocaine alone) than control group considering the urine samples throughout the study period that includes treatment and follow-up periods. 33% of CM group compared to 46% of control group submitted at least one cocaine-positive sample; and 79% of CM group compared to 75% of control group submitted at least one methamphetamine or cocaine-positive urine sample. CM participants were somewhat more likely to submit a urine sample containing methamphetamine during the follow-up period, but it was not statistically significant. The authors reported overall percentage of men that attended study visits, which was 84% at 24-week visit. They also stated that retention at the 6-week visit was similar for both groups but did not conduct any statistical analysis.

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<p>#19: Secades-Villa, R., García-Rodríguez, O., García-Fernández, G., Sánchez-Hervás, E., Fernandez-Hermida, J. R., & Higgins, S. T. (2011). Community reinforcement approach plus vouchers among cocaine-dependent outpatients: Twelve-month outcomes.</p>	<p>Spain</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Community reinforcement approach (CRA) plus CM vs Standard care. 24 weeks. 12-month follow-up. 	<p>n=64 individuals with cocaine use disorder</p>	<ul style="list-style-type: none"> Drug use: Longest duration of abstinence during the treatment period; Mean percentage of cocaine-negative specimens for each treatment group during the time patients remained in treatment; Percentage of participants abstinent at the 12-month assessment in each treatment condition; Abstinence at 12 months was validated by, patient self-reports and family reports and the percentage of patients in each condition who achieved 12 months of continuous cocaine abstinence based on self-reported cocaine use and urinalysis. Retention: Percentage of participants who were retained for 12 months in each treatment condition; Mean number of weeks patients were retained during the recommended 12 months of treatment. 	<p>At the 12-month assessment, approximately 59% of the participants in the CRA plus CM condition were abstinent, compared with about 26% in the standard care condition and the difference was statistically significant. 34.5% of the participants in the CRA plus CM group achieved twelve months of continuous cocaine abstinence, compared to 17% in the standard care group; however, the difference was not statistically significant. Significantly higher percentage of CM group (65.5%) completed twelve months of treatment compared to standard treatment group (29%).</p>

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<p>#20: Schottenfeld, R. S., Moore, B., & Pantalon, M. V. (2011). Contingency management with community reinforcement approach or twelve-step facilitation drug counseling for cocaine dependent pregnant women or women with young children.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • CM vs CRA vs Twelve-step facilitation (TSF) vs CRA plus voucher control (VC). • 24 weeks. • 3-, 6-, 9-, & 12-month follow-up. 	<p>n=145 cocaine dependent impoverished pregnant women or women with young children</p>	<ul style="list-style-type: none"> • Drug use: Longest consecutive period of documented abstinence; Proportion of cocaine-negative urine tests; Percent days using cocaine (PDC) during treatment; Self-report of no cocaine use in the past 30 days and a cocaine-negative urine toxicology test at the time of assessment, at baseline, and 3-, 6-, 9- and 12-months following randomization. • Retention: Number of attended sessions; Time to last clinical contact. 	<p>CRA and TSF did not significantly differ from each other on these measures. All four groups had statistically significant reductions in cocaine use during treatment. Past 30-day abstinence during treatment and follow-up, which was based on self-report of no cocaine use in the past 30 days and a cocaine-negative urine sample at the time of assessment, was significantly higher for those who received CM compared to those who received VC. Past 30-day cocaine abstinence increased in all groups during treatment, then slightly decreased at the end of the treatment and remained stable at 9- and 12-month assessments. Women who achieved long-term abstinence during treatment were statistically significantly more likely to be abstinent at 12 months compared to those who did not. The proportion of participants who stayed in treatment did not significantly differ between CM and VC, or CRA and TSF. In contrast, CM participants attended more treatment sessions on average (mean= 25 sessions) than VC participants (mean= 20 sessions), and the difference was statistically significant.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#21: García-Fernández, G., Secades-Villa, R., García-Rodríguez, O., Álvarez-López, H., Fernández-Hermida, J. R., Fernández-Artamendi, S., & Higgins, S. T. (2011). Long-term benefits of adding incentives to the community reinforcement approach for cocaine dependence.</p>	<p>Spain</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Community reinforcement approach (CRA) plus CM vs CRA only. 24 weeks. 6- & 12-month follow-up. 	<p>n=58 adults with cocaine use disorder</p>	<ul style="list-style-type: none"> Drug use: Percentage of cocaine-negative specimens for each treatment group during the time patients remained in treatment; Percentage of participants abstinent at the 12-month assessment in each treatment condition; Percentage of patients in each condition who achieved 12 months of continuous cocaine abstinence based on urinalysis and self-reported cocaine use. Retention: Percentage of participants who were retained for 12 months in each treatment condition; Mean number of weeks patients were retained during the 12 months of treatment. 	<p>During the treatment, CM group had a higher mean percentage of cocaine-negative urine samples compared to CRA-only group. 31% of the participants in the CRA plus CM group remained abstinent throughout twelve months, compared with 28% in the CRA-only group, however, the difference was not statistically significant. 59% of the CM participants were abstinent at the 12-month assessment, compared to 38% of the CRA-only group, again with no statistically significant difference. 65.5% of the participants in the CM group versus 48% in the CRA-only group completed 12 months of treatment. The CM group stayed for an average of 36 weeks in treatment, whereas CRA-only group stayed for 29 weeks in treatment on average. The CM group showed better retention outcomes compared to the other group that did not receive CM, however, the findings were not statistically significant.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#22: Petry, N. M., Barry, D., Alessi, S. M., Rounsaville, B. J., & Carroll, K. M. (2012). A randomized trial adapting contingency management targets based on initial abstinence status of cocaine-dependent patients.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Initially cocaine-negative: standard care (SC) vs SC + Abstinence CM (\$250Abs) vs SC + Attendance CM (\$250Att). Initially cocaine-positive: SC vs Abstinence CM (\$250Abs) vs Abstinence CM (\$560Abs). 12 weeks. 9-month follow-up. 	<p>n=442 cocaine dependent individuals</p>	<ul style="list-style-type: none"> Drug use: Longest consecutive period (longest duration) of objectively determined abstinence (LDA); Proportions of negative samples submitted. Retention: Duration of time in treatment; Number of days in which patients attended study treatment sessions. 	<p>Cocaine-negative arm had a significantly higher proportion of negative samples (89%) as compared to the cocaine-positive-arm (47%). For initially cocaine-negative patients, both CM conditions significantly increased proportions of negative samples submitted relative to SC, and the two CM conditions did not differ when missing samples were not considered in the denominator. At the same time, the two CM conditions were equally efficacious to SC in enhancing longest duration of abstinence (LDA). In initially cocaine-positive patients, both CM conditions increased proportions of negative samples relative to SC. When expected samples were used in the denominator, only patients in the \$560Abs condition demonstrated increased proportions of negative samples compared with those in SC. Patients assigned to \$560Abs also achieved significantly longer durations of abstinence than those assigned to SC and those assigned to \$250Abs achieved intermediary periods of abstinence, which did not differ from either of the other conditions. Follow-ups revealed no differences among groups, but LDA was consistently associated with abstinence at 9 months. About half the patients relapsed to substance use during the post-treatment period. Initially cocaine-negative patients in both abstinence and attendance CM groups attended more sessions than those in the standard treatment group. The authors found no differences in weeks retained in treatment in either study arm or number of sessions attended across groups in the cocaine-positive arm.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
#23: García-Fernández, G., Secades-Villa, R., García-Rodríguez, O., Peña-Suárez, E., & Sánchez-Hervás, E. (2013). Contingency management improves outcomes in cocaine-dependent outpatients with depressive symptoms.	Spain	Experimental	<ul style="list-style-type: none"> Community reinforcement approach (CRA) plus CM vs CRA alone 6 months. 6-month predictive analysis. 	n=108 cocaine-dependent outpatients with depressive symptoms	<ul style="list-style-type: none"> Drug use: Longest continuous abstinence; Highest percentage of negative samples over a 6-month period. Retention: Longest retention in treatment over 6 months. 	Those in the CM group earned vouchers for each cocaine-negative urine sample. Being in CRA plus CM treatment group predicted better abstinence outcomes at the end of treatment and longest duration of abstinence during treatment regardless of the depressive symptoms. This finding was statistically significant. There were no statistically significant differences between CRA plus CM and CRA-only groups on retention. As such, treatment type did not predict length of stay in treatment among a sample of individuals with or without depressive symptoms.
#24: Secades-Villa, R., García-Fernández, G., Peña-Suárez, E., García-Rodríguez, O., Sánchez-Hervás, E., & Fernández-Hermida, J. R. (2013). Contingency management is effective across cocaine-dependent outpatients with different socioeconomic status.	Spain	Experimental	<ul style="list-style-type: none"> Community Reinforcement Approach (CRA) vs CRA plus CM. 6 months. 6-month predictive analysis. 	n=118 crack cocaine-dependent individuals	<ul style="list-style-type: none"> Drug use: Continuous cocaine abstinence during that period (ranging from 0 to 6 months) was validated by means of concordance between urine toxicology, patient self-reports and family reports (agreement was needed between all three measures). Retention: Mean number of weeks patients were retained during the 24 weeks of treatment. 	Participants in the CRA plus vouchers group stayed in treatment for an average of 18.1 weeks, as compared to 14.2 weeks in the CRA group [t(112.9)=2.3, p=.02]. Those in the CRA plus vouchers group remained abstinent for an average of 3.1 months, as compared to 1.9 months in the CRA group [t(116)=2.6, p=.01]. Results showed that income had no effect on retention or abstinence outcomes after 6 months of treatment in either treatment condition. The addition of a CM component was beneficial for individuals with any socioeconomic status.

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
#25: Roll, J. M., Chudzynski, J., Cameron, J. M., Howell, D. N., & McPherson, S. (2013). Duration effects in contingency management treatment of methamphetamine disorders.	USA	Experimental	<ul style="list-style-type: none"> Standard psychosocial treatment (SPT) vs SPT plus one-month CM vs SPT plus two-month CM vs SPT plus four-month CM. 16 weeks. 8-, 10-, & 12-month follow-up. 	n=118 adults with methamphetamine dependence	<ul style="list-style-type: none"> Drug use: Longest duration of continuous abstinence during the treatment phase; Total percent of Urinalyses (UAs) indicating abstinence during treatment phase; Proportion of negative methamphetamine UAs submitted across the treatment period. Retention: Percentage of participants who attended all treatment sessions. 	There were significant differences across treatment conditions for number of consecutive days of methamphetamine abstinence ($p < 0.05$). These differences were in the hypothesized direction, as participants were more likely to remain abstinent through the 16-week trial as CM duration increased. A significant effect of treatment condition ($p < 0.05$) and time ($p < 0.05$) on abstinence over time was also found. The overall treatment attendance rate was 64.3%. Of those who attended treatment, 97.4% of the total number of UAs submitted were negative for methamphetamine. There were statistically significant differences in retention rates with 37% of the SPT and 76% of the four-month CM groups retained at follow-up.
#26: McDonell, M. G., Srebnik, D., Angelo, F., McPherson, S., Lowe, J. M., Sugar, A., ... & Ries, R. K. (2013). Randomized controlled trial of contingency management for stimulant use in community mental health patients with serious mental illness.	USA	Experimental	<ul style="list-style-type: none"> Treatment as usual (TAU) vs TAU plus CM. 3 months. 3-month follow-up. 	n=176 mental health outpatients with serious mental illness and stimulant dependence.	<ul style="list-style-type: none"> Drug use: Percent of participants with stimulant-negative urine samples; Likelihood of submitting a stimulant-negative urine sample during the treatment period reported as a percentage; Days of stimulant use. Retention: Percentage of those who complete the treatment; Weeks retained in treatment. 	Participants in the CM group were two times more likely to submit a stimulant-negative urine sample during the treatment period (3 urine tests submitted per week, for 12 weeks), and reported significantly fewer days of stimulant use during the treatment period relative to participants in the TAU group. During the three-month follow-up period, participants in the CM group were more likely to submit a stimulant negative urine test and have significantly fewer days of stimulant use during the treatment period when compared to those in the TAU group. Significantly fewer participants in the CM group (42%) were retained throughout treatment compared with those in the control group (65%). CM participants were also retained for fewer weeks (mean=7.25) than participants in the noncontingent control group (mean=9.33). Dropout typically occurred during the first 4 weeks with 64% in the CM group and 63% in the TAU group.

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#27: Hagedorn, H. J., Noorbaloochi, S., Simon, A. B., Bangerter, A., Stitzer, M. L., Stetler, C. B., & Kivlahan, D. (2013). Rewarding early abstinence in Veterans Health Administration addiction clinics.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • Usual care (UC) vs UC plus CM. • 8 weeks. • 2-, 6-, & 12-month follow-up. 	<p>n=330 veterans with stimulant dependence, including alcohol (n=191) and stimulant (n=139) subgroups.</p>	<ul style="list-style-type: none"> • Drug use: Longest duration of abstinence (the longest duration of time covered by consecutive negative samples and excused absences). • Retention: Number of weeks of attendance before a period of 30 days had elapsed since the most recent study visit; Percentage of retained participants at the end of the intervention (end of week 8). 	<p>92.9–100% of samples submitted by participants in both groups were free of target substances. The alcohol dependent subgroup that received UC + CM submitted significantly more negative samples, achieved significantly longer median durations of abstinence, and submitted significantly more negative samples at follow-ups as compared to UC participants. These differences were associated with medium effect sizes. There were no statistically significant intervention effects for the stimulant dependent subgroup assigned to either UC or UC + CM. There were also no statistically significant differences between the mean number of submitted negative samples between alcohol and stimulant subgroups that received CM. At two, six, and 12-month follow-ups, the stimulant dependent subgroup submitted comparable percentages of positive samples despite treatment group assignment, but the differences were not statistically significant. There was however a significant linear trend showing an increase in the proportion of both alcohol and stimulant positive samples across the three follow-up time points. Only the alcohol dependent subgroup that received UC + CM was retained significantly longer (7 versus 6 weeks) with a medium effect size compared to the usual care participants.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#28: Petitjean, S. A., Dürsteler-MacFarland, K. M., Krokhar, M. C., Strasser, J., Mueller, S. E., Degen, B., ... & Farronato, N. S. (2014). A randomized, controlled trial of combined cognitive-behavioral therapy plus prize-based contingency management for cocaine dependence.</p>	<p>Switzerland</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • Cognitive-behavioral therapy (CBT) plus prize-based CM vs CBT only. • 24 weeks. • 6-month follow-up. 	<p>n=60 stimulant using patients with high psychiatric comorbidity.</p>	<ul style="list-style-type: none"> • Drug use: At least 3 consecutive weeks of cocaine abstinence; Maximum number of consecutive weeks of abstinence; Proportions of cocaine-free urine samples during the entire 24-week and at 6-month follow-up; Self-report in cocaine use (Secondary outcome). • Retention: Percentage of participants who completed the treatment; Percentage of participants who dropped out 	<p>Participants in both groups significantly reduced cocaine use over time. There were no statistically significant differences between groups in the proportion of cocaine-free samples submitted during the intervention, except at weeks 8, 9, 10, 17 and 21 when the CBT + CM group reported significantly higher proportion of negative urinalysis as compared to the CM only group. At 6-month follow-up, the percentage of cocaine-negative urine samples was higher in the CBT + CM group (66%) as compared to CM only (45%), but the difference was not statistically significant. Despite the lack of statistically significant differences between groups, researchers reported a highly significant decrease in frequency of cocaine use over time, and a statistically significant reduction in the amount of cocaine use in favor of the CBT + CM group. 63.3% of participants completed the trial with no group differences in the overall decline in study retention over time. Patients in the CM group stayed in treatment for an average of 19 weeks and those in the control group for 17 weeks. Patients with more cocaine-using days were 1.2-fold more likely to drop out and patients having debts were 4.5-fold more likely to drop out.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#29: Chudzynski, J., Roll, J. M., McPherson, S., Cameron, J. M., & Howell, D. N. (2015). Reinforcement schedule effects on long-term behavior change.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Standard treatment vs continuous CM vs intermittent predictable CM vs intermittent unpredictable CM. 16 weeks. 6-, 8-, 10-, & 12-week follow-up. 	<p>n=119 adults with methamphetamine dependence</p>	<ul style="list-style-type: none"> Drug use: Number of methamphetamine negative samples; Percentage of patients who submitted methamphetamine negative samples during 16 weeks of treatment trial. Retention: Months in treatment; Percentage of participants who attended all sessions during the four months of treatment. 	<p>Compared to the standard treatment group, the continuous CM group was almost two times more likely, the intermittent predictable group was 2.4 times more likely, and the intermittent unpredictable CM group was 1.7 times more likely to submit a methamphetamine-negative urine sample. This finding was statistically significant. CM groups did not have statistically significant differences from each other on the likelihood of submitting a negative sample. Follow-up assessments for drug use outcomes did not show a statistically significant difference between the CM conditions and standard treatment. However, treatment completers were statistically significantly more likely to submit a methamphetamine-negative urine sample. The highest retention rate was for the intermittent predictable CM group (rewarded for three consecutive negative samples, escalating schedule with reset but no bonuses; 66%), followed by continuous (rewarded for each negative sample, with an escalating schedule with reset and bonuses; 64%), intermittent unpredictable (same as predictable condition but the timing of the reward was random; 60%), and standard treatment group (no CM; 46%). Those in the intermittent predictable group were significantly more likely to attend treatment appointments than those in the standard treatment group.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#30: Carroll, K. M., Nich, C., Petry, N. M., Eagan, D. A., Shi, J. M., & Ball, S. A. (2016). A randomized factorial trial of disulfiram and contingency management to enhance cognitive behavioral therapy for cocaine dependence.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Contingency management (CM) + disulfiram + cognitive behavioral therapy (CBT) vs CM + placebo + CBT vs disulfiram + CBT vs placebo + CBT. 12 weeks. 12-month follow-up. 	<p>n=99 individuals with cocaine dependence</p>	<ul style="list-style-type: none"> Drug use: Percent days of cocaine use during treatment (self-reported); Percent of cocaine-negative urine toxicology screens; Percentage of participants achieving three or more weeks of continuous abstinence (treatment success). Retention: Days retained in the 84-day treatment protocol; Number of completed sessions; Percentage of days taking medication or submitting samples. 	<p>CM enhances outcomes for the treatment of cocaine dependence with the best cocaine outcomes for the combination of CM and placebo. CM was associated with a higher percentage of abstinent days for participants assigned to placebo (91%), as compared to 79% of participants with no CM. In the disulfiram group, the effects of CM were less pronounced with 69% of abstinent participants, as compared to 79% of participants who received disulfiram and CBT but no CM. The results also indicated a statistically significant effect of CM on percent of cocaine-negative urine specimens (no CM 36.6% negative; CM 55.9% negative). One year follow-up data indicated sustained treatment effects across conditions.</p> <p>No differences across treatment group, medication (disulfiram versus placebo), or contingency management (CM versus no CM) in terms of days retained, number of scheduled CBT sessions completed, percentage of study days the participant reported taking their study medication as prescribed, or number of urine specimens collected.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#31: Miguel, A. Q., Madruga, C. S., Cogo-Moreira, H., Yamauchi, R., Simões, V., Da Silva, C. J., ... & Laranjeira, R. R. (2016). Contingency management is effective in promoting abstinence and retention in treatment among crack cocaine users in Brazil: A Experimental randomized controlled trial.</p>	<p>Brazil</p>	<p>Experimental</p>	<ul style="list-style-type: none"> • Standard treatment (ST) plus CM vs ST alone. • 12 weeks. • No follow-up. 	<p>n=65 individuals with crack cocaine dependence</p>	<ul style="list-style-type: none"> • Drug use: maintenance of abstinence (the longest sequence of consecutive negative samples submitted); Frequency of substance use (Number of negative samples divided by the total number of samples submitted; Number of negative samples divided by the expected samples). • Retention: Number of attended sessions; Number of weeks retained in treatment. 	<p>CM group submitted higher mean number of crack cocaine-negative urine samples (mean=13.1) compared to the standard treatment alone group (mean=2.4). This translated to an average of 4.4 weeks of abstinence in the CM group and 0.8 weeks in the standard treatment group with a statistically significant difference. CM group was more likely to achieve continuous abstinence from crack cocaine than standard treatment only group. Participants who were exposed to CM attended significantly higher number of treatment sessions on average and were significantly more likely to be retained in treatment at weeks 4, 8, and 12 weeks of treatment, compared to those who were in standard treatment.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#32: Petry, N. M., Alessi, S. M., Rash, C. J., Barry, D., & Carroll, K. M. (2018). A randomized trial of contingency management reinforcing attendance at treatment: Do duration and timing of reinforcement matter?</p>	USA	Experimental	<ul style="list-style-type: none"> Usual care (UC) vs UC plus attendance CM. 12 weeks. 3-, 6-, & 9-month follow-up. 	n=360 individuals with a cocaine use disorder	<ul style="list-style-type: none"> Drug use: Longest consecutive period of objectively determined abstinence (LDA); Proportions of negative samples using number of samples submitted in the denominator. Retention: Days in treatment; Percentage of attendance sessions; Longest consecutive period of time in treatment. 	<p>The CM group reported significantly longer duration of time in which patients submitted all negative samples and proportion of samples testing negative. As compared to UC, later CM patients had improved drug use outcomes. Patients randomized to CM twice (12 weeks of CM) achieved longer durations of abstinence and had higher proportions of negative samples with small to medium effect sizes as compared to those who received CM for 6 weeks. At 6-month follow-up, percentage of negative samples for each group ranged from 49% to 54%, but the assignment condition was not a significant predictor of abstinence. Participants in the CM group came to treatment more days, attended a higher proportion of scheduled groups, and stayed in treatment for a longer consecutive period of time than patients who were never randomized to CM, with effect sizes ranging from medium to large.</p>
<p>#33: Miguel, A. D. Q. C., Madruga, C. S., Simões, V., Yamauchi, R., Silva, C. J. D., McDonell, M., ... & Mari, J. D. J. (2019). Contingency management is effective in promoting abstinence and retention in treatment among crack cocaine users with a previous history of poor treatment response: A crossover trial.</p>	Brazil	<ul style="list-style-type: none"> Experimental Cross-over study. See Miguel et al. (2016). 	<ul style="list-style-type: none"> Standard treatment (ST) plus CM vs ST alone. 12 weeks. No follow-up. 	n=16 individuals with crack cocaine dependence	<ul style="list-style-type: none"> Drug use: Proportion of negative samples submitted; Longest duration of abstinence (weeks); Retained and abstinent at the last week of treatment; 3 or more weeks of abstinence; Completely abstinent during treatment. Retention: Treatment attendance (sessions); Retention in treatment (weeks); Retained and abstinent at the last week of treatment. 	<p>The outcomes of these participants were compared to their outcomes from the initial study when they received standard treatment only. Their drug use related outcomes improved when exposed to CM. As such, they submitted statistically significantly higher rates of cocaine-negative urine samples, achieved longer mean duration of cocaine abstinence, and had increased likelihood of abstinence from cocaine compared to when they received standard treatment only. The study found that participants were retained in treatment for a longer period when they received CM, compared to when they received standard treatment only.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
<p>#34: Regnier, S. D., Strickland, J. C., & Stoops, W. W. (2022). A preliminary investigation of schedule parameters on cocaine abstinence in contingency management.</p>	<p>USA</p>	<p>Experimental</p>	<ul style="list-style-type: none"> Two experiments: Low value CM vs High-value CM vs Noncontingent control (flat fee provided regardless of urine test results). 12 weeks. No follow-up. 	<p>N=17 individuals with cocaine use disorder</p>	<ul style="list-style-type: none"> Drug use: Percentage of overall negative samples; Percentage of consecutive negative samples. Retention: Attendance. 	<p>Better abstinence outcomes for those who were in high-paying CM conditions, however, it is not clear whether the difference was statistically significant, due to lack of statistical analyses. Experiment 1: Participants in the high paying CM group provided an average of 21% cocaine-negative urine samples, followed by 18% in the noncontingent group and 6% in the low paying CM group. Experiment 2: Participants in the high paying CM group provided an average of 39% cocaine-negative urine samples, followed by 16% in the noncontingent group and 12% in the low paying CM group. Both experiments showed that high paying CM produced superior outcomes compared to low paying CM and noncontingent groups.</p>

Study # & Title	Country	Research Design	Type & Length of Treatment(s)	Sample	Outcome Variables	Findings
#35: Miguel, A. Q., Simões, V., Yamauchi, R., Madruga, C. S., da Silva, C. J., Laranjeira, R. R., ... & Mari, J. J. (2022a). Acceptability and feasibility of incorporating contingency management into a public treatment program for homeless crack cocaine users in Brazil: A pilot study.	Brazil	Experimental	<ul style="list-style-type: none"> Comprehensive publicly funded treatment program (URH) plus CM vs URH alone. 12 weeks. No follow-up. 	n=98 individuals who use crack cocaine	<ul style="list-style-type: none"> Drug use: Longest duration of abstinence; Percent of negative samples submitted; Three or more weeks of continuous abstinence; Abstinence in the last 2 weeks of treatment. Retention: Weeks in treatment. 	<ul style="list-style-type: none"> Participants in the URH plus CM group were more likely to submit cocaine-negative urine samples, achieve three or more weeks of abstinence, achieve longer periods of continuous abstinence, and had a higher mean percentage of cocaine-negative samples compared to those in the URH alone. Those who received a URH plus CM stayed in treatment for an average of seven weeks, whereas those in URH only stayed in the treatment for an average of 3 weeks, with a statistically significant difference.
#36: Miguel, A. Q., McPherson, S. M., Simões, V., Yamauchi, R., Madruga, C. S., Smith, C. L., ... & Mari, J. J. (2022b). Effectiveness of incorporating contingency management into a public treatment program for people who use crack cocaine in Brazil. A single-blind randomized controlled trial.	Brazil	Experimental	<ul style="list-style-type: none"> Abstinent-contingent housing (ACH) plus CM vs ACH alone. 12 weeks. No follow-up. 	n=21 homeless individuals with crack cocaine dependence	<ul style="list-style-type: none"> Drug use: Three weeks or more of continuous cocaine abstinence (%); Three weeks or more of continuous cocaine abstinence (%); Percent of negative cocaine UA submitted (mean). Retention: Weeks in treatment. 	Participants in the CM group had larger percentage of abstinent individuals, had three or more weeks of consecutive abstinence, and had the longest duration of abstinence. There was no statistically significant difference in average number of weeks in treatment between those who received ACH treatment plus CM versus those who received ACH-only.