

# **STASH, Vol. 6(2) - Incentives for abstinence: The beneficial effects of contingency management for individuals recovering from substance use disorders**

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High dropout rates plague traditional outpatient treatment programs for substance use disorders (Substance Abuse and Mental Health Services Administration, 2008). This week's STASH reviews a new study that evaluated the effectiveness of two adjunctive services aimed at improving outcomes among individuals who have begun treatment for cocaine dependence (McKay et al., 2010). The adjunctive services were contingency management (CM), which provides incentives for abstinence; and relapse prevention (RP), which teaches skills for avoiding and coping with "high-risk" situations.

## **Methods**

- Participants were 100 adults with current diagnoses of cocaine dependence who had been engaged in an intensive outpatient program (IOP) for at least two weeks.
- Participants averaged 41 years of age, 14 years of regular cocaine use, and four prior drug abuse treatments. On average, participants reported being abstinent for 44 consecutive days at baseline (two weeks after the start of IOP).
- All participants received standard IOP treatment, which used a 12-step approach, for up to four months.
- In addition, participants were assigned randomly to one of four conditions:
  - Treatment as usual (TAU; n = 25): No adjunctive treatment beyond IOP.
  - CM (n = 26): Three times per week for 12 weeks starting at baseline, participants received a gift certificate for each cocaine-

free urine sample they provided. Participants could earn a maximum of \$1,150 if all samples were cocaine-negative. Gift certificates could be redeemed at retail businesses that did not permit exchange for cash, or for payment of household bills.

- RP (n = 24): During a 20-week period starting at baseline, participants were offered one individual session per week to learn how to identify, anticipate, and cope with “risky” situations (i.e. situations that might trigger relapse).
- CM + RP (n = 25): Participants received the 12-week CM protocol plus the 20-week RP protocol. In order to be eligible for CM gift certificates, participants had to attend RP sessions.
- The primary outcome was repeated binary indicators of cocaine use, measured via urine toxicology and self-report
- Participants provided data every three months for an 18-month post-baseline period. Retention rates were acceptable; at the 18-month assessment, 76% of the sample provided urine samples and self-reports.
- The researchers used [generalized estimating equations](#) with [intent to treat analysis](#) to compare outcomes among the four groups.

## Results

- Participants in the four conditions did not differ at baseline on any of the diagnostic, treatment, or problem severity variables.
- On average participants stayed in IOP for about 3 months.
- There was a significant main effect of CM provision: across all time points, participants in the two CM conditions (CM and CM + RP) were less likely to provide cocaine-positive urines than were participants in the two non-CM conditions (RP and TAU),  $\chi^2(1) = 3.77, p = 0.05$ . There was no main effect for the provision of RP, no significant interaction between CM and RP, and no significant interaction between condition and time.
- As indicated in Figure 1, the beneficial effect of CM was due primarily to low rates of cocaine-positive urines in the CM + RP condition, especially at the 6- and 9-month post-baseline assessments.

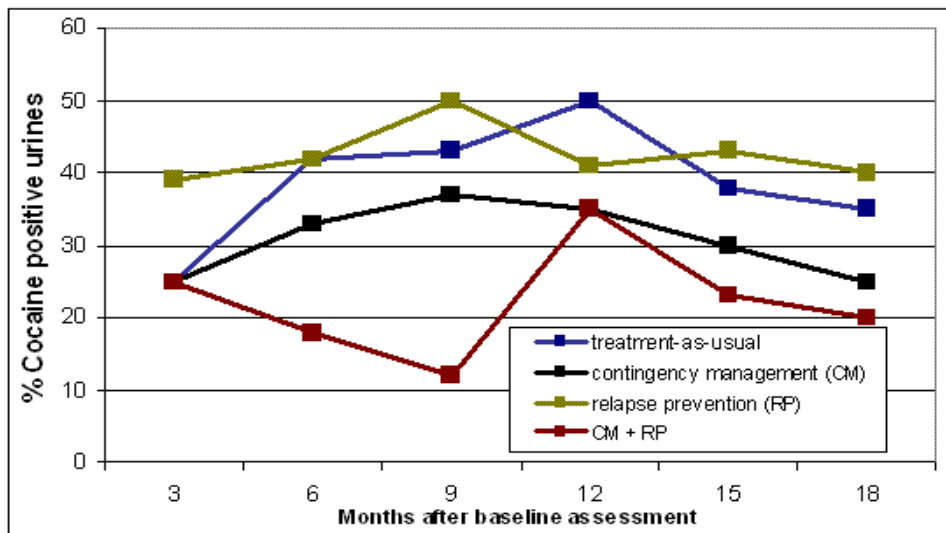


Figure. Percentage of urine samples obtained at each follow-up that were positive for cocaine. As a function of condition. Adapted from McKay et al. (2010). Click image to enlarge.

## Limitations

- The power to detect significant group differences was limited by the study's small sample size.
- The authors only enrolled participants who completed at least 2 weeks of IOP before the baseline assessment. It is unclear whether these results would generalize to individuals who show less commitment to recovery
- Participants in the RP-alone condition did not attend many RP sessions. This might help explain why there was no main effect of RP on abstinence.

## Conclusions

This study suggests that cocaine-dependent individuals who have begun outpatient therapy might benefit from the provision of contingency management. Providing monetary rewards for abstinence from illegal drugs is in line with other practical approaches to persistent societal problems. For instance, conditional cash transfer programs such as *Opportunity NYC* (NYC Center for Economic Opportunity, 2010) attempt to reduce poverty by providing cash incentives for academic performance and responsible parenting behaviors. Though *Opportunity NYC* has yet to be thoroughly evaluated, data from McKay and colleagues (2010) suggest that cash incentives for healthier behavior can in some cases produce beneficial effects.

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*What do you think?* Please use the comment link below to provide feedback on this article.

## **References**

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