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► [Randomized trial of continuing care enhancements for cocaine-dependent patients following initial engagement.](#)

McKay J.R., Lynch K.G., Coviello D. et al.

Journal of Consulting and Clinical Psychology: 2010, 78(1), p. 111–120.

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Unusually this US study took a set of patients who had generally already initiated abstinence from cocaine use and then used abstinence incentives and/or cognitive-behavioural therapy to extend and consolidate these gains. There was some evidence that offering the therapy and improving attendance via incentives prolonged the impact of those incentives.

Summary This US study of treatment for cocaine dependence aimed to test whether the remission of patients who had initially done well in intensive outpatient treatment could be preserved and extended by financially rewarding cocaine non-use ('contingency management') and/or by extra individual counselling sessions based on cognitive-behavioural principles intended to help the patients avoid relapse. Unusually it tested contingency management not as way to initiate abstinence, but to sustain it. Essentially the study found that the combination of both approaches helped the greatest proportions of patients to remain free of cocaine use, most notably in the middle of the 18-month follow-up.

The study recruited 100 adult patients who had attended regularly during their initial fortnight at one of two 12-step group-based programmes. For up to four months, these programmes scheduled sessions three days a week totalling nine to 10 hours per week, before stepping down to a session a week. Of the 573 patients approached to see if they were suitable for and wanted to join the study, 200 did not join because they did not complete the initial fortnight or the following baseline research assessments. Among

other criteria, the patients had to have not injected heroin for at least a year. Typically participants were unmarried black women (nearly 6 in 10 were female) and were in their late 30s and early 40s. By the time they entered the study, 70% had not used cocaine for at least a month.

They were randomly allocated to carry on with treatment as usual or to one of three additional therapies. For 12 weeks one set (the contingency management set) were rewarded with shopping vouchers if urine tests taken three days a week were clear of indications of cocaine use, a regimen implemented by non-clinical study staff. Another set (relapse-prevention patients) were instead offered 20 weekly individual relapse-prevention counselling sessions aimed at identifying situations which for them had precipitated substance use and learning to anticipate and cope with these in future. The final set (combination patients) were offered both types of additional intervention, with the rider that the voucher incentives required not just cocaine-free urine tests, but also attendance at the relapse-prevention sessions. This seems to have had the desired impact, as on average they attended 13 sessions compared to just three for the relapse-prevention patients who had been offered the same sessions but with no inducements to attend. By the final follow-up 18 months after the study started, three quarters of the patients could be reassessed by being interviewed and the same proportion by urine tests.

Main findings

Generally at each quarterly assessment from three months to 18 months after study start and on both the urine test and interview indicators, a smaller proportion of combination than of the other patients were found or assumed to have used cocaine. Only at the six-month and nine-month points were these differences large and consistent enough to be statistically significant, in comparison specifically to the treatment-as-usual and relapse-prevention patients. At no point did the non-combination patients allocated only to contingency management or only to relapse prevention sessions do significantly better than treatment-as-usual patients. This picture remained similar when all missed urine tests were assumed to be indicative of cocaine use rather than just those missed before the patient had entirely dropped out of treatment.

The authors' conclusions

The findings show that cocaine-dependent patients who have achieved initial engagement in an intensive outpatient programme and significant reductions in cocaine use can still benefit from incentives for cocaine-free urines. Reduced cocaine use was sustained for six months after incentives ended and was particularly strong when incentives were combined with individual cognitive-behavioural relapse-prevention sessions, as long as the incentives were also tied to consistent participation in the sessions. Without this 'carrot', the patients apparently had little interest in adding the sessions to the required core programme. Since so few were attended, it is no surprise that offering these sessions did not improve on treatment as usual. When attendance was improved via incentives, the sessions did seem to make a positive difference, and the combination's benefits outlasted provision of both incentives and the sessions.

These persisting effects may have been due to the incentives helping to open up 'windows of abstinence' (known to have happened from in-treatment urine tests) during which patients were exposed to 'natural' incentives for abstinence such as being able to

take up a new hobby, reconnect with non-drug-related friends, or other rewarding activities incompatible with a return to cocaine use. However, such windows were also opened by contingency management alone yet did not persist as well without relapse prevention sessions, suggesting that attending these sessions was the active ingredient in persisting cocaine use reductions. As intended, they may have equipped patients with better coping skills or greater self-efficacy and commitment to abstinence, and did provide the patients' sole opportunity to develop an individual relationship with a helpful and concerned therapist.

A puzzling finding was that offering relapse-prevention sessions without incentives actually seemed at most time points to make abstinence slightly (and non-significantly) less likely than not offering these sessions. Possibly relevant is that these patients attended significantly fewer of the core programme's therapy groups than the other patients (25 v. 38). Relapse prevention sessions were not fully integrated into this core programme and were provided by different counsellors; perhaps offering them in some way confused the patients or undermined their motivation to continue in the core programme.

FINDINGS

As the authors comment, a more usual strategy is to use incentives to initiate abstinence, paired with cognitive-behavioural therapy or therapies based on harnessing social networks to help sustain abstinence by teaching enduring skills, changing thought patterns, and altering how the user's social circle responds to them. In this guise [there is](#) research support for the combination. The featured study instead took a set of patients who had generally already initiated abstinence from cocaine use and sustained it for several weeks, and then used incentives and/or cognitive-behavioural therapy to extend and consolidate these gains. There was some evidence that this worked, specifically for the proposition that offering relapse prevention sessions and making attendance at these a requirement for incentives prolonged the impact of those incentives.

For methodological reasons (see below) these findings are suggestive only, but assuming they represent a real effect, forming a relationship with an experienced therapist may have been influential, though the average of 13 weekly sessions attended by the combination patients was just over the 12 weeks it would have taken to qualify for all the incentives. If these periods were concurrent, it seems possible that once attending the sessions was no longer incentivised, many contingency management patients stopped attending, not indicative of a strong relationship. However, some also continued, perhaps enough to make a small difference, and before leaving others may have absorbed the skills they later used to stay clear of cocaine.

Had (as is often the case) only the patient's own accounts of their cocaine use been available, except for nine-month follow-up it would not have been possible to suggest that the relapse prevention sessions had helped preserve life changes patients made during abstinence windows opened up by incentives; the proportions abstinent were virtually identical whether or not incentives had been supplemented by the sessions. On this measure too, at the longest terms investigated by the study (15 and 18 months) it seems virtually nothing had been gained from adding any of the three options to usual treatment.

In respect of urine tests the gap between incentives plus sessions and incentives alone was also apparent at the six-month follow-up but had slipped back to near zero by a year and then remained under 10%. At this degree of difference the impact of missed interviews and tests becomes potentially important (by the end a quarter were missing), and generally more urines tests were missed than interviews.

Another factor to consider is the possible demoralisation of patients who volunteered for the study perhaps on the 50-50 chance that they would stand to gain hundreds of dollars from doing what they hoped to do in any event, avoid using cocaine. Those who missed out will have seen their fellow patients (possibly in the same therapy groups) being rewarded for abstinence while they got nothing material out of their achievements.

Thanks for their comments on this entry in draft to James R. McKay of the University of Pennsylvania in the USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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