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Heroin addicts in Baltimore who still used drugs heavily despite being on methadone were sent to a special clinic for intensified care reinforced by sanctions and incentives and eventual discharge if still they failed to comply. Tough love perhaps, but does it really make sense to intensify compliance requirements on patients already not complying?

Summary The CAST (Community Access to Specialized Treatment) clinic provides the other 11 publicly funded opioid substitute prescribing programmes in the US city of Baltimore with a highly accessible alternative to discharge for patients with persistent and unremitting drug use. These patients are admitted to CAST with the expectation of return to the referring programme in four to 12 weeks having successfully completed their CAST episode, broadly defined as submitting at least two consecutive weeks of drug-negative urine samples and attending all scheduled evaluation and counselling sessions. Patients who despite incentives and stepping up the intensity of psychosocial support continue not to complete are eventually withdrawn from methadone over 30 days. Programme details below.

All CAST patients must at random provide an observed urine sample for testing once a week. For two to four weeks patients start with one individual and two group counselling sessions a week. Successful completers then return to their original clinics. For four additional weeks the remainder step up to one individual counselling session and eight hours of group counselling sessions per week. Again, successes return to their original clinics. Those still not succeeding are additionally required to find a drug-free associate to support them and to attend a weekly group counselling session designed to help patients improve the availability and magnitude of drug-free

social support. At this stage patients either succeed within eight weeks or then start a 30-day methadone taper. This is reversed if within a single week the patient submits a drug-free urine sample and attends all scheduled sessions, giving them another chance to succeed and be returned to their original clinics. Patients tapered down to 0mg are within one to three days offered readmission to CAST under the same conditions and titrated up to their usual maintenance dose of methadone.

Incentives and sanctions reinforced attendance at CAST counselling sessions. Missed sessions meant patients had to collect their methadone an hour earlier, reversed if they attended all scheduled sessions for a week. Patients who attended all scheduled sessions for a week earned one methadone take-home dose for the weekend plus vouchers worth \$25. Bus passes were suspended for patients who attended fewer than half their scheduled sessions and reinstated following complete attendance for a week. On successfully completing CAST patients received a certificate of achievement.

Patients suffering psychiatric complaints received a comprehensive psychiatric evaluation and many were started on psychiatric medications dispensed at the clinic each day until the patient was stable enough to manage this themselves. Patients reporting chronic pain were systematically evaluated as part of the psychiatric evaluation and some were prescribed additional medication.

There was close liaison with the referring programme on these aspects of care and also on each patient's progress. At discharge CAST counsellors sent the referring programme a report with recommendations for continuing care. The referring programme was contacted immediately when patients left against medical advice and encouraged to return patients for readmission.

The 81 patients in the study were those who attended CAST and had finished their episode there from among the first cohort of 101 patients referred to the programme between January 2007 and March 2008. Data for the study derived from a systematic review of CAST records. Averaging nearly 44 years of age, 57% were women and 72% black. Just 16% were married and 19% employed. For most the substance use which led to the referral involved cocaine. Nearly 6 in 10 were facing discharge from the referring programme due to their unremitting substance use.

Main findings

CAST ran at near full capacity throughout and 10 of the 11 potential source programmes used its services.

Of the 81 patients who started a CAST episode, 35 (43%) met criteria for successful completion and returned to their referring programmes. Of the remaining 46, 27 left CAST against medical advice and two were discharged without completing. The remainder were known to have been imprisoned (two) or transferred to other treatment programmes, including ten allowed back to their original programmes despite not completing CAST.

Patient stays at CAST averaged about 15 weeks, during which on average they attended nearly all their individual counselling sessions. On both measures those who did not complete roughly equalled those who did. This was not the case for the group-based counselling sessions which stepped up in frequency as non-completers advanced to more intensive services. Though completers and non-completers attended a similar number of these sessions, with more to attend, for non-completers these constituted a smaller proportion (58% v. 93%) of scheduled sessions. The picture was similar for patient attendance at community support groups as part of the final stage of stepped-up intensity of treatment; non-completers and completers attended a similar number, but

with more scheduled, for non-completers these constituted a smaller proportion (35% v. 78%) of scheduled sessions.

During their time at CAST, most (42 of the 81) patients failed to complete persistently enough for the programme to start withdrawing them from methadone, though half the 84 tapers (some patients started more than one) were reversed after patients began to comply with the programme's requirements. Among the 46 who did not complete CAST, 35 started to be withdrawn and **about half** did not comply well enough to have the taper reversed.

In incentive payments CAST completers averaged vouchers worth \$218, non-completers just \$82.


The authors' conclusions

High utilisation of CAST treatment slots over the study period is compelling evidence of the need for this approach and its acceptance by publicly supported opioid substitute treatment providers in Baltimore. Though many referrals to CAST were at high risk of discharge from the referring programme and they were selected for unremitting drug use despite months of routine care, a substantial number benefited appreciably from their relatively brief exposure to CAST, evidence for the effectiveness of approaches which adapt to the patient's progress and impose sanctions and offer incentives for compliance and abstinence.

Such findings suggest CAST could decrease treatment drop-out and discharge rates and reduce the unproductive cycling of patients from one programme to another. This approach seems a viable alternative to substantially changing the infrastructure of each of the referring programmes to offer more intensive and integrated substance use and psychiatric services of the kind centralised at CAST.

Nevertheless, about half the sample did not improve sufficiently to be returned to the referring programmes, many of whom chose to go to other clinics. Most who continued to use drugs while at CAST left against medical advice. Despite the lack of significant improvement, ten were accepted back by the referring programmes, perhaps undermining the incentive to meet CAST completion criteria.

It should be acknowledged that these results did not emerge from a study which randomly allocated patients to CAST versus some other approach, nor one which could ensure that patients referred to and who started CAST were representative of all patients not doing well in normal methadone programmes.

 **FINDINGS** The threat of being withdrawn from methadone for persistent non-compliance and/or substance use is a drastic measure **potentially risking** patients' welfare and lives and the welfare of their families and the surrounding community. It may be justified if the treatment really is of no benefit and cannot be made to be so now or in the future, or if the threat works in the sense of benefiting the patient and there is no other way of gaining this benefit while the patient remains assured of uninterrupted treatment.

One way to understand the findings is that CAST's pre-set, non-individualised criteria and automatic intensification of requirements and support bifurcated the patients in to those who could meet this challenge (and in the process gain financial rewards) and those who could not. Of the 100 referrals not still at CAST when the study collected its data, the

clearest 'winners' were the 35 successful completers returned to their referring programmes, though how they fared on their return is not known. Of the remainder, 11 were either lost sight of or discharged from their treatment programmes before the CAST referral could be completed. Another 29 were discharged against medical advice or (just two) forced to leave CAST before completing and were not known to have transferred back to their original programme or to another. This means 40 of the 100 were potentially at heightened risk because out of treatment. But at least 50 of the 100 were at risk of this anyway due to impending (46) or actual (4) discharge from their original treatment programmes. How many would actually have been discharged is not known; if many responded well to the start of the discharge process from CAST, perhaps too they would have done so at their originating programmes.

However, the sanctions and incentives levied by CAST – including for half the start of the discharge withdrawal, which for nearly half did not enforce compliance – are not the only ways to turn round what seem hopeless cases. Flexibly increasing doses or letting the patient adjust their own doses of methadone [can eliminate](#) what seems intractable 'on-top' opiate use, though the impact on stimulant use – the main drug involved in the featured study – is unclear. Arguably however the success of a methadone treatment episode should not be judged by its effects on the use of drugs from a pharmacologically distinct family, and patients who react well by cutting their heroin and other opioid use may still be considered worth keeping in treatment in order to sustain this while working on other substance use problems.

There must too be a question over the logic of making compliance more onerous for patients who already find it hard to comply with treatment requirements. In the featured study, patients who failed to respond to this intensification did not attend any fewer counselling or group sessions than their peers, but because the requirements on them were greater, they still registered poor attendance in terms of the proportion of sessions attended. Withdrawal of bus passes and setting inconvenient methadone dosing times were other ways complying with treatment was made harder for those already doing poorly on this front.

Among other reports on the implementations of similar contingencies in Baltimore clinics (see for example [1 2 3](#)), [one compared](#) variations on the two components of the regimen in the featured study: sanctions-based intensification of requirements on patients who fail to comply culminating in discharge, versus positive rewards – rewards in this study for submitting drug-free urine tests rather than attending counselling. Another set of randomly allocated patients were subject to both procedures or just standard care. Nine months later 73% of incentives-only patients were still in treatment compared to 44% of sanctions-only patients. In between at 61% and 58% respectively were patients allocated to both sorts of procedures and those allocated to standard care. This retention difference contributed to the fact that more urine tests were missed by patients not rewarded for abstinence – for example, the incentives-only patients missed just 9%, sanctions-only patients 30%. When missing urine tests were counted as positive for drugs, it meant that the incentive regimens were best at controlling substance use, while the sanctions-only regimen did no better than standard care. This was despite the fact that the sanctions worked in the sense of promoting attendance at counselling sessions. Over the first six months sanctions-only patients attended on average 18–19 more counselling sessions than incentives-only or standard care patients. Such results call in to question the effectiveness of the kind of counselling the patients received in helping them stay in treatment and stay off drugs, and in turn the wisdom of forcing patients to attend more of this counselling if they are not controlling their substance use as required by the clinic.

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