DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study considered particularly relevant to improving outcomes from drug or alcohol interventions in the UK. The original study was not published by Findings; click Title to order a copy. Free reprints may be available from the authors – click prepared e-mail. Links to other documents. Hover over for notes. Click to highlight passage referred to. Unfold extra text The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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For whom does prison-based drug treatment work? Results from a randomized experiment.

Welsh W.N., Zajac G., Bucklen K.B.

Journal of Experimental Criminology: 2014, 10(2), p. 151–177.

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For the first time in a prison setting a randomised trial rigorously compared intensive residential therapeutic community treatment to outpatient counselling. Confounding expectations, the US prison for problem drug users which hosted the study gained nothing in terms of preventing recidivism by allocating even high-risk prisoners to the more intensive treatment.

SUMMARY In a rare randomised trial, the featured analysis attempted not just to establish the effectiveness of a US prison therapeutic community relative to outpatient treatment, but also what types of inmates may differentially benefit from these modalities.

Background

In the USA, prison-based therapeutic community treatment has become a dominant, evidence-based paradigm for treating drug-dependent inmates. These facilities are present in over a quarter of prisons and serve an estimated 45,486 offenders. Therapeutic communities are residential, communal living centres designed to treat the whole person through the use of the peer community. Residents typically progress through several treatment phases which grant them increasing levels of responsibility. Treatment activities include morning meetings, individual and group therapy, lifeskills groups, and participation in a therapeutic milieu with well-specified roles, privileges, and responsibilities. Community norms are emphasised and reinforced with clear rewards and sanctions intended to develop self-control and responsibility.

Key points
From summary and commentary

In a US prison for problem drug users nearly all new arrivals joined a study which for the first time in a prison setting rigorously compared intensive residential therapeutic community treatment to outpatient counselling.

Over a three-year post-release follow-up period no extra reduction in reimprisonment was found from the intensive option.

The same finding emerged among prisoners at the highest risk of re-offending, confounding expectations that the more intensive treatment would be particularly suitable for these offenders.

Syntheses of evaluations of prison-based drug treatment have generally shown therapeutic communities are associated with the strongest and most consistent reductions in rates of relapse to drug use and criminal recidivism. In 2006 a rigorous analysis found prison-based therapeutic communities were associated with reduced rates of reimprisonment and re-arrest, but reduced rates of relapse to drug use only when mandatory aftercare was also provided. However, only two of the 30 therapeutic community studies (1 2) had effectively allocated patients at random to these facilities versus an alternative approach, helping to ensure that differences in outcomes were not due to differences in the patients. Across these two studies there was a significant reduction in criminal recidivism but not in relapse to drug use. Only one of the two studies was fully randomised. Even in that study, participants had volunteered for treatment, raising concerns about generalisability to the entire potential caseload.

Less intensive alternatives to prison therapeutic communities include outpatient substance use counselling programmes typically offered to moderate-risk inmates. In contrast to therapeutic communities, outpatients are not immersed in their programmes, which are integrated into other daily activities such as work, education, and recreation, and typically they do not live together in a segregated unit dedicated to treatment. Outpatient programmes also typically provide fewer hours of treatment over a shorter time span.

This raises the issue of who benefits most from different types of programmes. In the criminal justice system, a well-evidenced system for determining this is the risk-need-responsivity framework:

Risk refers to the likelihood that an inmate will re-offend upon release. All things being equal, treatment should be targeted toward higher risk inmates.
Need refers to dynamic factors contributing to criminal propensity which can be changed through treatment. Criminogenic needs include antisocial peers, antisocial ways of thinking, substance use, and circumstances in the domains of family, work, and leisure. Effective interventions target these needs.
Responsivity factors include characteristics of the services delivered (general) and attributes of the individual offender (specific) that can interact to modify the impact of treatment. General responsivity includes treatment modality, intensity, and duration. Specific responsivity includes the offender's motivation, gender, race/ethnicity, level of cognitive functioning, and psychological attributes including negative feelings and emotions and the 'constraint' they exercise over impulsive tendencies to engage in risk-taking or sensation-seeking while rejecting conventional norms and disregarding the feelings or rights of others.

The framework highlights the need for ongoing assessment of both the offender's state of mind and of the services provided to identify ways to improve response to these services.

Featured study aims and methods

Against this background, the featured study tested four hypotheses:
1 First and foremost, based on previous research it was expected that the prison therapeutic community would result in lower rates of reimprisonment than outpatient treatment.
2 Second, based on the risk-need-responsivity framework, higher risk inmates were expected do better in the more intensive option – the therapeutic community.
3 Third, based on the framework's principle of specific responsivity and other research, it was expected that more depressed and hostile ('negative affect') inmates would do worse in either type of treatment.
4 Finally, it was expected that previously unexamined interactions between treatment modality (therapeutic community v. outpatient) and specific responsivity characteristics of the offender (such as negative affect and their risk of re-offending) would affect reimprisonment rates. With no prior research as a guide to exactly what might be found, nevertheless it was hypothesised that inmates with relatively high levels of negative affect and low levels of risk would have worse outcomes in the more intensive therapeutic community treatment.

Setting for the study was the Chester men's prison in Pennsylvania in the USA, a facility dedicated to problem drug users. To be admitted, offenders had to have severe drug-related problems approximating to dependence, 18–34 months left to serve, and no serious mental health problems. These rules meant all the inmates met at least minimum eligibility criteria for therapeutic community treatment. Such treatment was provided at the prison in the form of an intensive, 12-month programme intended for high-need inmates. Before the study an evaluation established that the programme satisfactorily implemented the prison-based therapeutic community model, and it was also formally accredited as meeting the relevant standards. A 12-month outpatient programme catered for inmates requiring less intensive (150 hours v. 1,300 in the therapeutic community) treatment. Graduates of both programmes were required to complete a six-month community aftercare programme.

All inmates admitted to Chester during the 15-month recruitment period were asked to join the study. Of the 831, 790 or 95% agreed. Later 59 were excluded because their needs were considered to require allocation to the therapeutic community, leaving 731 randomly allocated to this modality or to outpatient counselling. Logistic issues and missing data reduced the sample whose results could be analysed to 604 men – 286 allocated to the therapeutic community and 318 to outpatient treatment. They averaged 32 to 33 years of age and nearly two-thirds were African American. Their current and former offences were rated as fairly but not very severe, and their drug use problems as roughly equating to a diagnosis of dependence. Asked which drugs had caused them the most serious problems before being imprisoned, about a fifth each specified alcohol, cannabis or cocaine/crack, and 11% opiates.

Based on Pennsylvania state records, reimprisonment was the study's indicator of a return to crime. Primarily at issue was how the programmes the prisoners were allocated to affected how long after release from Chester they remained out of prison over a three-year follow-up period.

Main findings

All but 13% of the prisoners completed their treatment programmes, evenly divided across the two programmes, and 41% were reimprisoned during the three-year follow-up period – 44% allocated to the therapeutic community versus 38% to the outpatient programme. The details presented below confirm that overall outcomes were worse among patients allocated to the therapeutic community and also that compared to outpatient treatment, this was relatively ineffective for offenders at high risk of offending – both opposite to expectations. Findings on negative emotions were more in line with expectations of greater benefit from the therapeutic community than outpatient treatment.

First the analysts tested whether across the entire sample and without adjusting for any other factors,

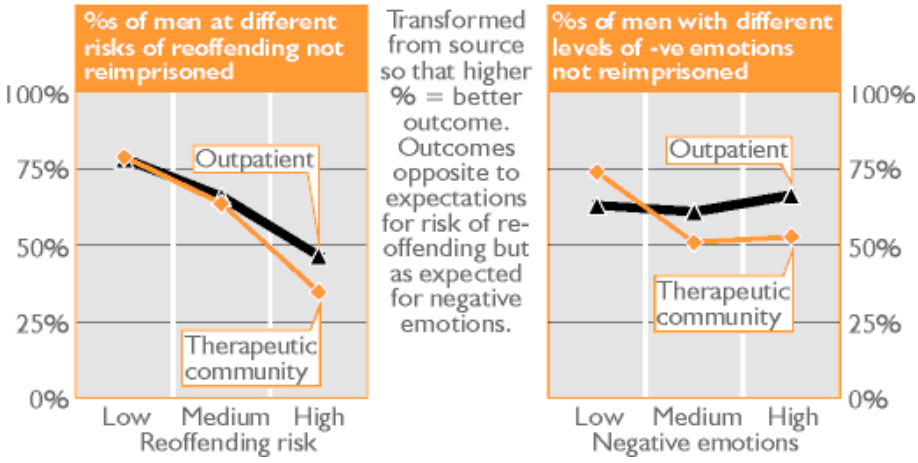
reimprisonment was significantly more or less likely or delayed following allocation to the therapeutic community. This was not the case, though the slight tendency was for worse outcomes among the therapeutic community than the outpatient sample. The results contradicted hypothesis 1.

Once other factors had been taken into account, this slight tendency became greater and statistically significant, yet more sharply contradicting hypothesis 1. Among the other factors was whether the prisoner had failed to complete either of the treatment programmes, events very strongly related to post-release return or more rapid return to prison. Also related in the same direction were the offender's risk of reoffending as assessed at the start of treatment, and the seriousness of the offence for which they had been imprisoned.

The next step was to take into account the assessments made of the prisoners in the final month of prison treatment, an attempt to establish whether how well they had responded to treatment affected their risk of being (more rapidly) reimprisoned. These adjustments left the same factors related to reimprisonment as before, including the apparently negative effect of allocation to the therapeutic community. Results were in line with the expectation (hypothesis 3) that prisoners experiencing high levels of negative emotions would more often or more rapidly be reimprisoned. However, this finding was not statistically significant, so failed to confirm the hypothesis. Findings were similar with respect to assessments of the offender's degree of lack of constraint.

In a final step, the analysts looked for the expected signs that inmates with relatively high levels of negative affect and low risks of reoffending would have worse outcomes after the more intensive therapeutic community treatment. For negative affect the results were as expected (hypothesis 4): particularly hostile or angry prisoners were reimprisoned or reimprisoned more rapidly if they had been allocated to the therapeutic community. But for risk of reoffending, the results were opposite to expectations (hypothesis 2). Rather than doing better because they needed more intensive treatment, high-risk prisoners were also reimprisoned or reimprisoned more rapidly if they had been allocated to the therapeutic community. In this final step when all the planned variables and their interactions had been taken into account, still overall the therapeutic community was no more effective than outpatient counselling.

Another way to present the findings confirmed that, unexpectedly, high-risk patients did best in the less intensive programme. The method was to divide the samples into two sets of three: for each of negative emotions and reoffending risk, the bottom and top quarters and the middle halves. Based on simply the risk of reimprisonment at all during the three years (not its rapidity), as expected offenders low in negative emotions did best in the therapeutic community, and the remainder did best in outpatient treatment. Turning to the risk of reoffending, at low and medium levels of risk, reimprisonment rates after therapeutic community and outpatient programmes were virtually identical, but at high levels the outpatient programme was preferable. (The charts below show these figures transformed from the source so that a higher % equates to a better outcome in the form of *not* being recorded as having been reimprisoned.)



The authors' conclusions

Four features distinguished the current study from most of its predecessors: evidence that the therapeutic community programme had been well implemented; a large enough sample to simultaneously analyse the interacting influences of several variables; a true randomised controlled trial methodology; and examination of interactions between treatment modality and the characteristics of individual offenders.

Results failed to demonstrate the predicted superiority of a prison therapeutic community over less intensive outpatient counselling, and failed to support risk-need-responsivity predictions that inmates at higher risk of reoffending would do better in the therapeutic community. Perhaps the most intensive intervention is not *always* the most effective (or appropriate) for those with the highest level of reoffending risk. Other factors are also important, especially for interventions such as therapeutic communities which entail intensive interaction and confrontation, and may mean such interventions are not appropriate for all high-risk inmates. Responsivity factors such as negative affect, cognitive limitations, interpersonal skills, prior treatment history, may dictate something other than an intensive therapeutic community programme for a particular high-risk prisoner at a particular time.

Therapeutic community participants who were high in reoffending risk and negative affect had significantly higher reimprisonment rates than their counterparts in outpatient treatment. Such inmates may be poor candidates for a prison therapeutic community and do better in less intensive regimens.

The findings suggest several important considerations for understanding the risk-need-responsivity framework. While this emphasises the importance of assessing reoffending risk level and needs of individual offenders, ideally these assessments must be ongoing in order to track change through treatment. All too often, assessment is done only at intake to the programme or the prison. Inattention to ongoing reassessment may help to explain the findings of the featured study. Designating a group of inmates as high risk and placing them together in a fixed-intensity and fixed-duration therapeutic community (or any other programme) may not be an optimal strategy. Another key implication is the cost-effectiveness of non-residential compared to residential drug treatment in prison. Estimates suggest that the average cost for residential drug treatment is nearly three times the cost of non-residential treatment.

FINDINGS COMMENTARY A truly landmark trial, this seems only the second randomised trial of a prison-based therapeutic community and the first to make a crucial comparison – not between substance use treatment and no specific treatment at all, but between two prominent but very different in-prison treatment modalities. While it may be generally accepted that *some* treatment should be offered to substance-dependent inmates, what that treatment should be is an open question which has not rigorously been evaluated. At least in the context of the US prison which hosted the featured study, making arrangements to house problem drug users in a separate unit and offering intensive therapy gained no respite in the burden imposed on the state by having to reimprison offenders. Most significant is that even prisoners assessed before treatment as at particularly high risk of reoffending did not respond better to more intensive and segregated treatment. It remained, however, an open question whether the therapeutic community was best for those at high risk of reoffending *specifically because* they were very severely dependent on drugs or alcohol.

Published well before this trial, in 2005 US government guidance portrayed therapeutic communities as “among the most successful in-prison treatment programs”, whose intensity makes them “preferable for the placement of offenders who are assessed as substance dependent”. Also well before the trial, when in 2006 the UK Department of Health published guidance on the clinical management of drug dependence in prisons, it envisaged the “principal elements” to include “Progression, through CARAT case management, to other Tier 3 and 4 services in prisons, such as rehabilitation programmes and therapeutic communities.”

> *Results of this unique trial may warrant a rethink of official US and UK guidance*

How many UK prisons host therapeutic communities for problem drug users seems not to be centrally collated, but certainly they exist. Though not necessarily hierarchically structured like a therapeutic community, also found in UK prisons are ‘drug recovery wings’ where problem drug users are segregated in a more securely drug-free unit focused on recovery from addiction and offering a structured rehabilitation programme bolstered by peer support and role-modelling.

Results of the featured study beg the question of whether such arrangements are really more effective than non-segregated and non-intensive treatment, and in turn, whether this unique randomised trial is enough to warrant a rethink of official guidance in Britain and in the USA.

A landmark trial

Apart from its subject, among the features which make the featured study a landmark trial are those which bolster confidence in the findings. Near universal participation by the potential caseload eliminates questions about whether (self-)selection of prisoners for the trial biased outcomes. Given the containing prison context, nearly all participants could safely be allocated to outpatient treatment; outside prison, whittling the sample down to those assessed as being able to manage outside a residential setting robs those settings of what is thought a distinctive asset – being able to cater for the most severe cases. Use of official imprisonment records eliminated the need to recontact participants, a process which often means many are lost to the analysis. Imprisonment in the same US state is an imperfect indicator of a return to crime, but there is no reason to believe those imperfections would bias outcomes – and for a prison system trying to decide whether it is cost-beneficial to mount more intensive treatment, arguably this is a key measure.

Given an unprecedentedly well-levelled playing field allied with completeness of sampling and data, it is all the more significant that no reimprisonment (presumed indicative of reoffending) advantage was gained from the more intensive and probably more expensive therapeutic community programme. Not only were expectations of greater success from the therapeutic community confounded, but so too were expectations of greater success specifically among offenders with the strongest criminogenic characteristics. However, none of the criteria on which this was judged related to the severity of the substance use problems targeted by the treatments. The study does not seem to have tested whether greater severity on the one measure of pre-treatment drug problems helped identify prisoners more suitable for therapeutic community treatment.

In the community's favour was that prisoners who by the end of treatment were relatively low in anger and hostility had on average responded better to the therapeutic community than to outpatient counselling. Without pre-treatment measures, we cannot know whether this means it is best (all else being equal) to allocate prisoners who *start* this way to a therapeutic community, or whether the inmates who *ended up* relatively calm after 12 months of intensive therapy and intensively interacting with staff and other residents were those who adjusted best to this more challenging regimen.

The authors of the featured study suggested their results have important implications for cost-effectiveness; they found therapeutic community treatment no more effective, yet residential care of this kind has been estimated to cost nearly three times as much as non-residential. However, accommodation and associated costs form a large part of the extra expense, and in prison, these are provided for *both* therapeutic community and non-residential patients. An update to the estimates published in 2008 calculated costs for prison therapeutic communities *additional* to those arising simply from imprisonment. On this basis, an episode of treatment in a prison community typically cost $1536 compared to $21,251 outside prison, and about the same as an episode of counselling or other drug-free non-residential treatments outside prison. How much in-prison counselling might cost was not estimated, but the gap between this and therapeutic community treatment will not be as great as outside prison.

Other trials

No other randomised trial has made the same comparison as the featured trial, but other US trials which approached the ideal of randomisation have compared prison therapeutic community outcomes against no specific substance use treatment – or none identified in the reports on the studies.

Most rigorous was the evaluation of the Amity therapeutic community at Donovan prison in California in the early 1990s, a study previously analysed for the Effectiveness Bank. Unlike the featured study, only prisoners randomly allocated to the Amity in-prison therapeutic community (and then only those who successfully completed the programme) could avail themselves of the offer of another six to 12 months in a similar residential regimen after release from prison. Many did, and it seemed that the extra numbers who continued treatment after release and the extra months in treatment accounted for Amity residents' slightly lower risk of reimprisonment over a five-year post-release follow-up. During this time, 76% of former Amity residents had been reimprisoned compared to 83% who had not entered the unit, and on average they had stayed out of prison for six months longer.

Our fully referenced commentary on the Amity study suggested that the findings were in line with findings generally that in-prison treatment has only a minor or no impact on recidivism unless followed by further treatment on release. US evidence on the role of post-release aftercare and continuing supervision in reducing recidivism and drug use is much stronger than for prison treatment itself, in the USA generally conducted on therapeutic community lines. Even on its own with no preceding prison programme, post-prison rehabilitation has been found to have exerted a greater positive effect than prison treatment.

That latter finding derived from an evaluation of the US state of Delaware's KEY/CREST programme. Delaware's prison system eased inmates back into the community via a work-release programme which prepared them for employment and towards the end of which they were expected to be working. For problem drug users this was integrated with therapeutic community treatment, but when slots in this facility were unavailable, otherwise eligible prisoners were diverted to the state's routine work-release programme. There were exceptions, including prisoners who had completed treatment in an in-prison therapeutic community, who were prioritised for continuing treatment in the work-release community. Compared to work-release on its own, when integrated with a therapeutic community the regimen was associated over the five years after release with fewer participants being re-arrested for a new offence, and among those who could be re-assessed, more no longer using illegal drugs. However, the in-prison therapeutic community on its own did not improve long-term outcomes – the reason why the transitional work-release arrangements were introduced.

The 2006 review cited by the featured report was updated in 2012. Five more studies were found but still only two which had randomly assigned participants to a therapeutic community versus minimal or no treatment. The findings indicated that therapeutic community treatment helped prevent a return to crime and probably also to drug use, and that mandating aftercare improved outcomes. But with so few rigorous studies, the results could result from an accumulation of bias. Unlike the featured study, the analysis did not address the issue of whether prisons should prioritise therapeutic communities over other treatment modalities.

Published in 2010 another review focused on US prison therapeutic communities. Confirming the importance of follow-on care after prison, overall it concluded that "Positive results have generally been found at 12, 24, 36, and 60 months, but differences between the treatment and comparison groups tend to converge at 36 months except for the groups that have aftercare." Apart from the Amity and KEY/CREST evaluations described above, it spotlighted the 'Stay 'n Out' study (1 2) as one where inmates "were randomly assigned to the [therapeutic community] or control groups". In fact, the no-treatment control groups consisted of prisoners who had volunteered for the therapeutic community but having been placed on a waiting list, were not admitted "because they did not meet the time eligibility criterion – an inmate can be no more than 12 months and no less than seven months away from parole eligibility". The thinking was that these prisoners were equally motivated but presumably for reasons unrelated to their later recidivism, could not start treatment. However, this assumption is not necessarily valid. Rather than allocating prisoners on a random or first come, first served basis, prison authorities can be expected to exercise judgement over who should be prioritised for a scarce resource.

Among the men in the Stay 'n Out study, significantly more no-treatment than therapeutic community prisoners were re-arrested while on parole (41% v. 27%), but the former had over six months or 19% longer to be arrested, and if they were arrested, this tended to be more delayed than among the therapeutic community prisoners. Successful completion of the parole period – considered indicative of the "the long-term effects of treatment" – was no more common after therapeutic community treatment than after no treatment at all. Other comparison groups had been offered counselling or less structured residential therapy, but not in the prison which hosted the therapeutic community, making the comparison between these treatments vulnerable to bias. As with the no-treatment comparison, arrests were proportionately fewer among therapeutic community prisoners than among those allocated to alternative treatment, but successful parole completion was not significantly more likely. A parallel study concerned female inmates, but with so few participants the results were a less reliable indicator of relative success rates.

Thanks for their comments on this entry in draft to research author Wayne Welsh of Temple University in Philadelphia in the USA. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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