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# The Drug Treatment Outcomes Research Study (DTORS): final outcomes report.

**Jones A., Donmall M., Millar T. et al.**

**[UK] Home Office, 2009.**

*Over 10 years since the last attempt, in 2006 a national study assessed the progress of patients starting drug treatment in England. A year later drug use and crime were down and social costs saved, but wider life improvements were minor compared to treatment costs.*

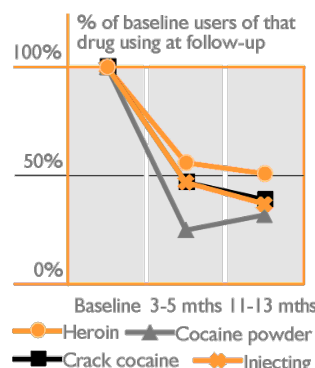
**SUMMARY** The Drug Treatment Outcomes Research Study (DTORS) was commissioned by the government department with lead responsibility for drug policy and led by University of Manchester's National Drug Evidence Centre. Rather than setting up treatments to be tested on patients allocated by researchers, the study simply tracked what happened after patients presented in the normal way to usual drug treatment services. For this reason it was unable to compare the effectiveness of one treatment with another (caseload differences could invalidate such a comparison), but was able to shed light on the progress typically achieved during and after typical treatments.

In each of 94 areas during a four- to seven-week window between February 2006 and March 2007, the study recruited and interviewed 1796 adults seeking treatment for primary drug (not alcohol) problems. Interviewees had made face to face contact with staff at a representative sample of community or residential services offering interventions intended to follow a systematically delivered treatment plan. Interviews were to be conducted as soon as possible (and at least within four weeks) after initial assessment. Respondents were to be included in the study whether or not they actually started treatment, and followed up regardless of whether they remained in treatment. For details of the caseload ▸ background notes. Below sampling and treatment details.

Of the 1796 patients interviewed initially, about half (886) could be interviewed three to five months later and 504 of these were interviewed again 11 to 13 months after their initial interview. Responses by these 504 to a researcher-administered survey could be used to track progress from the start of treatment through to the point (three months) when benefits were expected to be apparent, and then on to a year to see if these were sustained. Another 245 were only reinterviewed once six to 12 months after seeking treatment, too late to be interviewed again. 'Raw' findings from these samples were rebalanced to make them more representative of all adults recorded as having started structured treatment at services in England. Further adjustments were applied to account for ways the people who were followed up differed from those who were not.

Nearly 9 in 10 of the participants reinterviewed at three to five months had started treatment. Just over half (52%) had been prescribed medications with actions similar to the drugs they had been taking before treatment, generally the opiate-type medications methadone or buprenorphine, and generally too (75% of those prescribed) on a maintenance basis. Four in ten had instead/also been counselled, generally (71% of those counselled) at least once a week in one-to-one sessions, and about half (47%) also/instead in group sessions. Nearly 1 in 5 (19%) had been in residential rehabilitation for stays usually intended to last three to six months, almost as many (18%) had participated in structured day-care, and 1 in 10 had received inpatient detoxification. By the time they were interviewed a year after seeking treatment, very few (4%) had yet to start treatment. At both interview points, about three quarters (70% and 77% respectively) were still in some form of structured treatment, and around 70% had continuously been in treatment for at least three months and nine months respectively.

Drug use and other outcomes largely reflected in- rather than post-treatment progress. Main findings were that drug use fell substantially by the three–five month interview, reductions broadly sustained to one year. The proportions who in the past four weeks had injected any drug, or consumed heroin, cocaine, amphetamines, or benzodiazepines, were roughly halved, and reductions in respect of non-prescribed methadone or other opiates were considerably greater. By the one-year follow-up, a few people who had *not* used these drugs at treatment entry were now using cannabis or alcohol, somewhat curbing the still substantial net reductions. Across all drugs, many fewer respondents felt their use was causing problems. Taking the average past-week spend on drugs as a proxy for overall consumption, this fell rapidly the longer someone had been in treatment, flattening out after five to six months.




Crime too fell substantially. In the four weeks before seeking treatment, 40% of the sample had committed an acquisitive offence (mainly relatively minor), itself probably a reduction on prior offending. Within three to five months this had halved to 21%, then fell by a year to 16%. The reduction flattened out after about six months in treatment. Similar reductions were seen in serious crimes in particular. Even if offending did not stop, on average there was a substantial decrease in its volume and/or the costs associated with it.

In contrast, health and social improvements were modest. Mental health improved but remained below national norms, while throughout physical health matched UK norms. Though current health seemed unaffected, the number of people risking their future health (and those of others) fell substantially, most noticeably because three quarters (77%) who had recently shared injecting equipment before seeking treatment no longer did so a year later. The proportion recently experiencing overdoses more than halved (from 9% to 4%), probably associated with reductions in injecting and/or using several opiates together, or opiates with benzodiazepines or alcohol. Proportions in paid employment rose from

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9% when seeking treatment to 16% about a year later, and those stably housed rose from 60% to 77%. These improvements did not result in fewer people receiving welfare benefits (throughout about 4 in 5); the number of benefits each beneficiary accessed actually increased. From 22%, the proportion of parents whose under-16 children all lived with them rose to 34%.

The authors concluded that treatment was associated with substantial reductions in drug use and offending, in harmful behaviours associated with problem drug use, and improvements in mental wellbeing and social functioning. Where comparable, outcomes from the DTORS 2006/07 cohort at least matched those recorded in a 1995 treatment cohort by a similar study. Despite doubling its caseload, the drug treatment system seems to have maintained and possibly improved effectiveness. Further work is needed to confirm whether gains are sustained after treatment ends. Clients presenting for treatment via criminal justice routes were retained as long and did as well those from other referral sources. However, criminal justice routes were no better at extending treatment to first-time entrants, and over half who came to treatment this way said they would have come anyhow, suggesting that resources might best be focused on the relatively few drug users who would not have entered treatment via another route.

**FINDINGS COMMENTARY** For more detailed citations ▸ background notes. This account is based on:
• the featured report;
• in-depth interviews with small, illustrative rather than representative samples of 32 treatment staff and 44 treatment-seekers who completed the second round of follow-up interviews;
• an economic sub-study estimating net financial savings for society associated with treatment and the degree to which each £ spent on treatment saved and improved patients' lives;
• earlier reports (1 2) describing the initial sample.
There is also a summary of the findings to date.

DTORS is the main contemporary study enabling an assessment of how well the English drug treatment system is performing. Despite the study's problems (▸ below), it is also the best assessment we have. The scorecard includes substantial reductions in drug use, crime, and risk to health, but only small gains in employment and housing. Patients' health improved, but too little for this in itself to justify the cost of treatment. There were however cost savings for society as a whole. While these financial estimates shed light on the costs and benefits of making treatment available, substantial uncertainty over their magnitude make them less reliable than outcomes 'nearer the ground' such as drug use, crime and risk to health.

The study's importance makes it equally important to understand its strengths and limitations, particularly in relation to its predecessor, the National Treatment Outcome Research Study (NTORS), against which it is bound to be compared to assess whether things have improved since the mid-90s. How the samples were recruited is critical, and the differences complicate comparison between the studies. In essence, NTORS did not aim for a nationally representative sample; DTORS did, but suffered what cumulatively were serious setbacks for which it diligently sought to compensate, but which cast considerable doubt over the representativeness of the findings. For details ▸ background notes; summary below.

NTORS recruited its 1075 clients in 1995 using a similar methodology to DTORS: problem drug users approached usual treatment services in the usual way and their progress was tracked regardless of whether they remained in treatment. However, NTORS limited itself to methadone prescribing and inpatient/residential services, and the sample was not intended to be representative even of those types of services. In contrast, DTORS did aim to recruit a representative sample of people seeking structured treatment, including at day-care and non-residential counselling programmes.

In the event, DTORS too was unable to ensure a representative sample or achieve its 3000 target, and nearly three quarters of the sample could not be reinterviewed at the one-year follow-up. Especially in respect of the initial sample, this still left the study with the largest and probably the most representative drug treatment sample ever recruited in England. However, findings must be interpreted in the light of the sometimes substantial difficulties in recruiting and retaining them in the study. The representativeness of the initial sample also depended on treatment staff raising the study with all suitable new clients and gaining permission for a researcher to contact them, opening up opportunities for selective recruitment. Of those attendees staff identified as meeting the study's criteria, about two thirds were interviewed for the study; most of the remainder refused to participate. The degree to which these possible sources of bias could be adjusted for was limited, partly because there were large mismatches between the answers treatment-seekers gave to DTORS' researchers, and those they gave to treatment staff gathering information for the national database.

In the end the study started with 1796 treatment-seekers interviewed at 342 treatment facilities across 94 drug action team areas. From this starting point emerged the later follow-up samples, findings from which were subject to further layers of adjustment to attempt to correct for the half of the starting sample not reinterviewed in time for the first follow-up, and the nearly three quarters not interviewed at the final follow-up, adding further substantial uncertainty to the findings. To assess effectiveness, such studies have to make assumptions about what would have happened if treatment had *not* been available. Implicitly (and in the case of the economic calculations, explicitly) the reports assumed that without treatment to seek, the drug users would have carried on as before. Perhaps, but perhaps not; given their motivation and the pressures they were under, some may have improved anyhow, though it seems unlikely that their progress would have been as great as it was without treatment doors to go through to actualise motivation and respond to pressures.

Especially given confirmatory research such as NTORS, these limitations do not seem sufficient to call in to question the general magnitude of the drug use, crime and health-risk reductions observed by the study, valuable dividends for the patients (over half prioritised ceasing drug use as a treatment objective) and for society. However, questions remain over the degree to which treatment contributed to these benefits.

Despite a sophisticated and careful analysis, much less confidence can be expressed in the '£2.5 for every £1' benefit-to-cost calculations, while gains in the patients' health-related quality of life would normally be considered too small in themselves to justify the cost of treatment. For each patient over about a year, seeking treatment was associated with an extra 0.05 (one twentieth) of a life-year adjusted for the quality of that life, at a treatment cost of £4531. Put differently, one quality-adjusted life-year was saved at a cost of £90,620, considerably in excess of yardsticks for what constitutes a health gain sufficient to warrant the cost of medical treatment. Underlying this disappointing figure were at best modest improvements in physical/mental health and functioning. In terms of benefits for society as a whole, this result was turned around by adding savings in the costs of crime and in public health and social care services. Apart from poor and incomplete data, these rested on the questionable assumption that stolen/defrauded money and goods were lost to society, rather than transferred (albeit illegally) from one member of society to another. For details ▸ background notes.

While health and drug use and crime reductions remain important, reintegration through employment is

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While health and drug use and crime reductions remain important, reintegration through employment is now a national policy priority. Just predating this policy shift, DTORS showed how much needed to be done. First hill to climb was that though over three quarters were unemployed, just 1% of treatment-seekers prioritised employment as a treatment goal. At follow-up, just under a fifth recalled receiving employment-related help from any source, let alone the treatment service itself. Not surprisingly, little (if any, given the numbers missing at follow-up) progress was made in gaining paid employment, and little too in laying the foundations for employment in improved mental health and stable housing, both impeded by poor access to specialist provision. For details ▸ background notes.

The in-depth interviews offer possible explanations for some of these findings. Expanded on in the background notes, a major theme was that delivery of a rounded and individualised service catering for the multiple needs of the clients was seriously impeded by high caseloads, competition between services, poor partnership working with mental health services, and restricted access to accommodation.

For governments concerned to contain welfare benefits, the same disappointing record of increased post-treatment access to these benefits was noted of patients starting treatment in 2009/10.

While the study was unable to compare the effectiveness of the different treatment modalities, it did compare the progress of patients in these modalities. Across different outcomes, generally progress was about the same. Other issues analysed in the background notes were:

• Whether as assumed by English treatment funding and monitoring systems, three months really is a retention threshold beyond which the chances of lasting recovery take a step up. DTORS suggests improvements continue to at least six months, and other studies also offer little support for this assumption.

• Whether crack users really are harder to treat then heroin and other drug users. Few crack users recalled receiving a crack-specific intervention but still they did as well as anyone else in terms of retention and reintegration and if anything, crack seemed easier to give up than heroin. Findings are consistent with other studies showing that crack users do respond well to a range of non-specific psychosocial approaches. However, patients for whom crack was their primary drug problem were not singled out in the DTORS analyses.

• Were criminal justice clients different? In general, no or only slightly was the answer. Compared to the predominantly self-referred remainder of treatment-seekers, they had similar treatment histories, were currently just as motivated and ready for treatment, and did just as well. A third said they would not have come to treatment without legal pressure, but many more (over half) said they would have come anyway.

• Does treatment reduce crime by reducing drug use? DTORS found crime went down as the need to commit it to raise money for drugs also fell, but strangely there was no clear correlation between the criminal income of each participant at different stages in the study and the extent of their drug use.

*Thanks for their comments on this entry in draft to Michael Donmall of the National Drug Evidence Centre at the University of Manchester and others on the DTORS research team. Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

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