Summary of key findings from the Drug Treatment Outcomes Research Study (DTORS)

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Key implications

This report summarises the findings from a major national evaluation of drug treatment in England, the Drug Treatment Outcomes Research Study (DTORS). The study comprised a longitudinal survey of outcomes, a qualitative assessment of the factors that impact on effective treatment, and an economic analysis. The full results from each element of the study are available separately (see: Barnard *et al.*, 2009; Davies *et al.*, 2009; Jones *et al.*, 2009; Jones *et al.*, 2007).

The study's key implications are as follows.

- Drug treatment is effective in reducing the harmful behaviours associated with problem drug use.
  The majority of treatment seekers received care-coordinated treatment, expressed satisfaction with their care, were retained in treatment beyond three months, and reported significant and substantial reductions in drug use and offending as well as improvements in social functioning.

- Regardless of treatment provision and delivery, personal motivation is crucial to successful treatment.
  A personal deep level of motivation was regarded by treatment seekers and providers as crucial to successful drug treatment.

- Treatment must be sufficiently flexible to meet the differing needs of treatment seekers.
  Effective assessment of treatment needs should consider the range of pressures reinforcing an individual's dependency. Meeting the multiple needs of treatment seekers relies on effective multi-agency working.

- The criminal justice system (CJS) is an equally valid route into drug treatment.
  The survey found equivalent positive outcomes for CJS and non-CJS referrals. The qualitative interviews with treatment seekers further enhanced this view by finding no apparent differences in levels of motivation between CJS and non-CJS referrals.

- Drug treatment is cost-beneficial.
  Drug treatment was estimated to be cost-beneficial. For every £1 spent, an estimated £2.50 was saved and drug treatment was overall found to be cost-beneficial in 80 per cent of cases.

Context

The Drug Treatment Outcomes Research Study is a major national evaluation of drug treatment in England.

Aims and objectives

The study aimed to:

- explore the outcomes associated with drug treatment;
- provide an in-depth description of the needs of treatment providers and seekers and the factors affecting the success of treatment, and;
- assess the cost-effectiveness of drug treatment services.

Background

A previous study, the National Treatment Outcomes Research Study (NTORS), described the effectiveness of treating problem drug users between 1995 and 2000. However, there have been fundamental changes in the delivery of drug treatment in England and changes in the population receiving treatment since NTORS reported.

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Over the course of a decade, the use of crack or cocaine nationally has risen from approximately 14 per cent of drug users at the time of NTORS in 1996 (Department of Health, 1998) to 44 per cent in 2006 (NDTMS, unpublished). Concurrently, increasing use of referral into drug treatment through the criminal justice system has increased the proportion of drug-misusing offenders seeking treatment.

In light of the changing drug treatment landscape, the DTORS study provides new evidence on the effectiveness of treatment services.

Drug treatment and rehabilitation services are commissioned and provided in four tiers. Tiers 1 and 2 provide open access and non-structured drug treatment services such as advice and information, drug screening, and referral to specialist drug services. Tier 3 provides structured community-based drug treatment and rehabilitation, aimed at individuals with a high level of presenting need. Tier 4 services provide residential treatment and rehabilitation, aimed at individuals with a high level of presenting need. Tier 3 and 4 services account for around 70 per cent of total drug treatment costs. The focus of the DTORS study was on Tiers 3 and 4.

Approach

DTORS was a national, multi-site, longitudinal study comprising an outcomes survey of treatment seekers (see Jones *et al.*, 2007, and Jones *et al.*, 2009), a qualitative assessment of drug treatment (Barnard *et al.*, 2009), and an economic analysis of the costs and benefits associated with drug treatment (Davies *et al.*, 2009).

Treatment seekers were assigned to treatment modalities independently of the study and on the basis of clinical need. DTORS is not, therefore, a suitable basis on which to judge whether certain types of treatment are intrinsically 'better' than others.

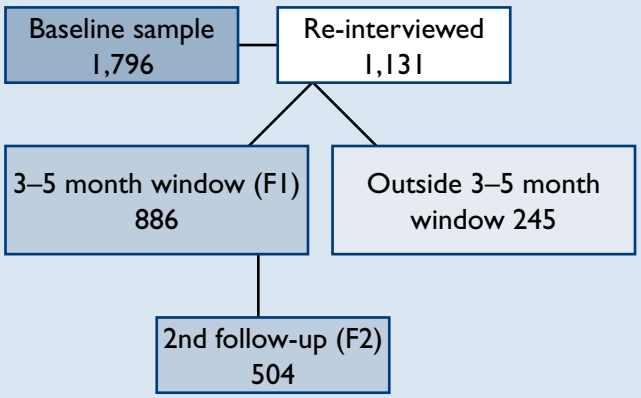
Further, the DTORS study did not sample a non-treatment control group and so the findings cannot compare outcomes on the basis of those that would have occurred without treatment.

The survey

A sample of 1,796 adults who were broadly representative of the population of Tier 3 and Tier 4 treatment-seekers in England, was recruited to the study between February 2006 and March 2007 from 342 treatment facilities across 94 Drug Action Team (DAT) areas. Sampling took place over a four- to seven-week period in each DAT and follow-up surveys were conducted at between three to five months after the baseline interview, and then again at between 11 and 13 months after the baseline interview.

The sample numbers for each stage of the survey are shown in Figure 1.

Figure 1 Description of sample



The data were weighted to be representative of the treatment-seeking population as a whole and to control for non-response in the follow-up data.

Results depicting differences between baseline and follow-up measurements are presented as weighted descriptives. Any reported differences between subgroups are statistically significant at the 95 per cent level[1] unless otherwise stated.

The qualitative assessment

This element of the study used unstructured interviews to explore the views and experiences of drug treatment service providers and drug treatment seekers.

A sample of 44 treatment seekers was drawn from participants who completed the first follow-up interviews in the survey. Treatment seekers were purposively sampled to reflect a range of experiences of treatment outcomes, their previous treatment history, their age and gender and other social characteristics. Participants from a range of CJS and non-CJS referral routes were included.

Four DATs were selected based on their size and from these a total of 32 drug treatment workers were selected representing a range of different types of treatment such as substitute prescribing and structured day care.

1 This means the level at which there is a one in twenty chance of an observed difference being solely due to chance.

Economic analysis

The participants in the economic analysis were the 1,796 drug treatment seekers who participated in the baseline interviews.

The analysis drew on costs of drug treatment from the National Drug Treatment Monitoring System (NDTMS) and data collected in the DTORS survey. The costs included Tier 3 and 4 drug treatment services, the costs of health care, accommodation, children in care, criminal activities and quality of life measured in Quality of Adjusted Life Years (QALYs). Unit costs of crime previously estimated by the Home Office (Dubourg *et al.*, 2005) were used to calculate costs of offending; other unit costs were estimated from published literature and databases.

Costs and quality adjusted life years (QALYS), which measure the health gain associated with drug treatment, were calculated for the treatment group and estimated for a constructed group based on what might have happened in the absence of structured drug treatment. Incremental cost-effectiveness ratios were estimated as the cost of treatment minus the cost of no treatment, divided by the QALYs of treatment minus the QALYs of no treatment. QALYs were valued in monetary terms using a range of values that decision makers may be willing to pay to gain one QALY.

Characteristics of the sample

The sample were predominantly male (73%) and White (89%) compared to four per cent who were of mixed ethnicity; three per cent Black; three per cent Asian, and two per cent who were designated as an 'other' ethnic group. The age group was typical of a drug treatment group with 20 per cent aged from 16 to 24; 45 per cent aged from 25 to 34, 27per cent from 35 to44, and seven per cent aged 45 and over.

There were variations in recent drug use and primary problem drug by ethnicity. Those for whom crack was their primary problem were less likely to be White (77%) and more likely to be Black (12%) than those whose primary problem drug was heroin (91% White, 2% Black).

Thirty-five per cent of treatment seekers were referred to treatment through the criminal justice system. More than half of these (55%) had received a Drug Rehabilitation Requirement (DRR) which is part of a community sentence, 17 per cent had received referral or advice from an arrest referral/ Drugs Interventions Programme (DIP) worker, 17 per cent from a probation officer and 15 per cent per cent from a prison worker.

Findings

Drug treatment

Interviews with treatment seekers revealed a range of pressures which reinforce their drug dependency and subsequently influenced their individual needs from drug treatment.

In recognition of the wide-ranging and differing needs of treatment seekers, the national treatment framework (NTA, 2002; 2006) highlights the need for service users to have access to appropriate and effective assessment, care planning and care co-ordination.

At the survey's first follow-up, 83 per cent of treatment seekers recalled discussing a care plan; the majority of these indicated that they were happy with all (57%) or most (26%) of its contents.

A key barrier to full treatment engagement identified by treatment seekers in interviews included waiting times. The survey found that 83 per cent received a care plan within three weeks of triage. The average (mean) waiting time between assessment for treatment and starting the first treatment intervention was 20 days, although half of the treatment seekers started within seven days.

A key finding from the interviews with treatment seekers was that personal motivation was crucial to change; without it, and regardless of the quality of the treatment provided, some treatment seekers claimed that treatment could not work. A key role for treatment services, therefore, was encouraging motivation. This could be done by properly assessing and understanding treatment seekers' needs.

In interviews, some of the treatment providers spoken to described the challenges of multi-agency working. However, it was also acknowledged that overcoming the barriers and engaging in effective partnership working was essential in meeting the multiple needs of treatment seekers.

Social functioning

A number of circumstances in the treatment seekers' environment were noted as having the potential to act as a 'trigger' to relapse. Improvements in social functioning, therefore, are not only successful treatment outcomes in themselves, but they are considered to aid overall treatment outcomes.

A number of improvements to treatment seekers' social context were observed at the survey's first and second follow-ups.

Employment

The proportion of treatment seekers in paid employment increased from nine per cent at the baseline survey to eleven per cent at first follow-up. The proportion in paid employment increased at each follow-up alongside a corresponding decrease in those classed as unemployed. However, the proportion classed as unable to work due to sickness increased; this may be due to a greater number being properly diagnosed for illnesses although this is not known from the data.

Correspondingly, legitimate income also increased from a mean weekly income of £95 at baseline to £147 at second follow-up.

Relationships

At the baseline survey, 38 per cent of respondents had a partner and, of those, 38 per cent had a partner who took drugs (14% of the overall sample). The corresponding figure was 51 per cent among recent heroin users. The proportion of treatment seekers who reported having a drug-using partner did not change significantly over the course of the follow-up interviews.

These figures are in line with the views expressed by some treatment seekers who described experiencing difficulties with maintaining a relationship with non-users. This was often due to the non-using partner not being able to properly empathise with the user and the pressures which reinforced their drug-taking behaviour.

Children

Just under half of treatment seekers (49%) at baseline had children under the age of 16 and three-quarters of these parents lived apart from all their children aged under 16. The proportion of treatment seekers with children under 16 living with them rose from 15 per cent to 34 per cent by second follow-up.

Treatment seekers with crack as their primary problem were the least likely to be have all their children living with them at baseline (5% as opposed to 22% for heroin and 37% for other primary drug problems). By second follow-up, 24 per cent of primary crack users had all of their children under 16 living with them.

Accommodation

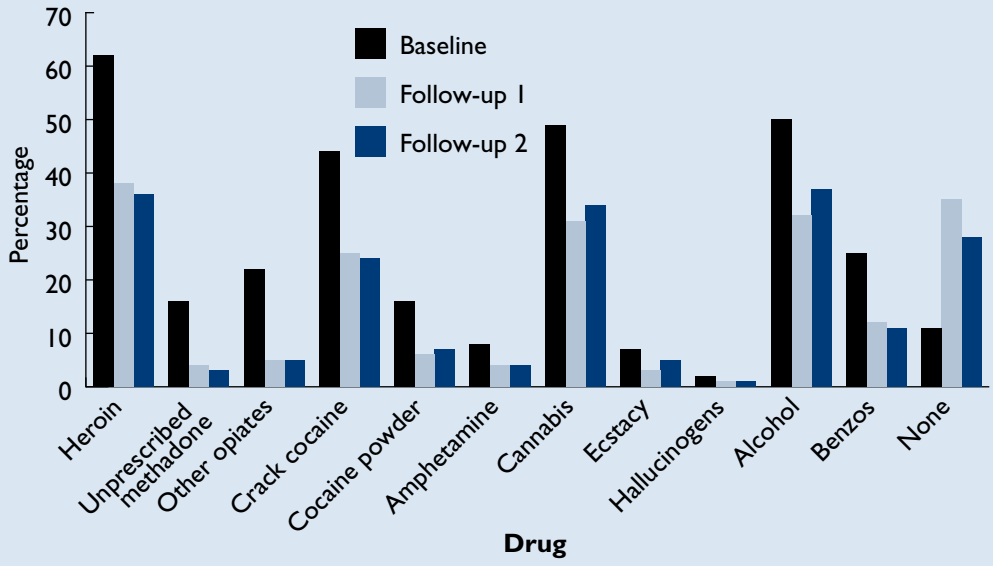
The interviews with treatment seekers identified problems with accommodation as a key potential trigger to relapse.

The proportion of treatment seekers who had stayed only in stable accommodation during the previous four weeks increased between baseline (60%) first follow-up (67%) and second follow-up (77%).[2]

Drug use

During the course of treatment, many treatment seekers stopped using the drugs that they reported using at baseline and the regular use of all drugs reduced significantly between baseline and follow-up – see Figure 2.

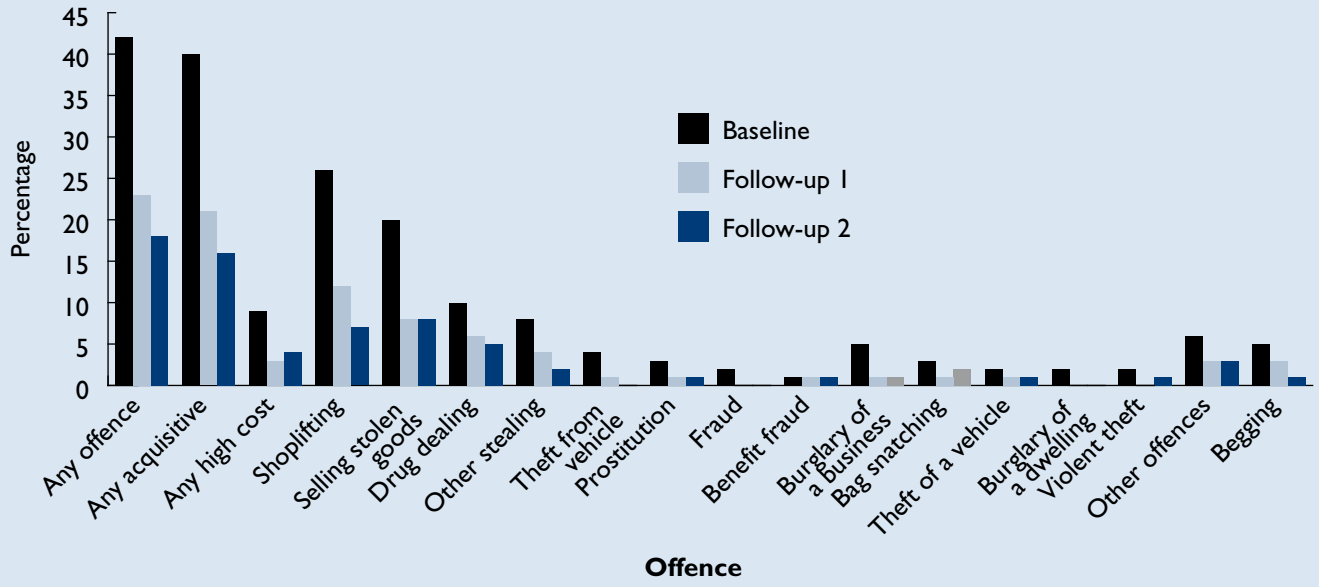
Figure 2 All drugs used in four weeks before baseline and follow-up interviews



Levels of drug consumption decreased between baseline and follow-up two. There was little change, or an increase in the case of some drugs between follow-ups one and two. There was a statistically significant decrease in the mean value of all drugs used in the seven days prior to interview from £169 at baseline to £64 and £63 at first and second follow-up respectively.

2 Individuals staying in residential treatment were regarded as staying in unstable accommodation.

Figure 3 Levels of offending



The most marked reductions in drug use were among the most problematic drug users. Reduction in drug use at first follow-up was positively associated with use of heroin, crack, acquisitive offending and medium to high levels of dependence at baseline.

A fall in drug consumption was also associated with treatment duration. The majority of the reduction was achieved during the first three months, although improvements continued beyond this point with the maximum effect observed within six months.

Offending

Reductions in levels of acquisitive offending[3] and high-cost offending were recorded at the follow-up surveys. While 40 per cent reported committing an acquisitive crime in the four weeks before their baseline interview, this halved to 21 per cent at first follow-up and 16 per cent by second follow-up. As shown in Figure 3 there was a similar reduction across all offence types.

Longitudinal analysis of the survey data revealed that the following factors were positively associated with being an acquisitive offender:

- higher Severity of Dependence score;[4]
- crack use;
- injecting;
- previous treatment experience at baseline, and;
- being younger.

Further longitudinal analysis showed that the following factors were associated with committing *high-cost crimes*:[5]

- baseline use of crack cocaine;
- injecting; and
- being younger.

In addition to a reduction in offending, a reduction in income from offending was also observed. Prior to treatment three-quarters (75%) of offenders had earned *more* than £25 from offending in the previous four weeks. By first follow-up, around three-quarters of offenders (72%) had earned *less* than £25 in the previous four weeks.

The proportion who reported committing a crime to fund their drug habit also fell from 22 per cent at baseline to eight per cent at first and seven per cent at second follow-up.

Health and risk behaviour

The outcomes survey observed reductions in needle sharing and drug taking associated with heightened risk of overdose.

Sharing

Over half (57%) of baseline injectors reported sharing equipment during the four weeks prior to the baseline survey. By first follow-up, this proportion had decreased to 40 per cent.

There was a large reduction in baseline injectors overall with 72 per cent ceasing injecting altogether.

3 Defined for the purposes of this report as burglary of a business or dwelling, theft of vehicle, bag snatching or robbery.

4 A five question scale designed to attach a score to an individual's self-reported level of dependence on individual drugs.

5 Burglary of a business or dwelling, theft of vehicle, bag snatching or robbery.

Overdose

Risk rates with respect to overdose exposure declined between the survey baseline and follow-up.

At baseline, nine per cent of treatment seekers reported having experienced an overdose in the previous three months; this reduced by more than half to four per cent at first and second follow-ups.

There were also reductions in the number of reports of poly-substance use associated with increased risk of overdose.

Outcome differences between CJS and non-CJS referrals

All cases in which criminal justice personnel had an influence on the referral to treatment were defined as CJS referrals.

Although CJS referrals were more likely (92% v 87%) to start a treatment modality, after referral, both groups demonstrated similar levels of treatment retention, and there were few differences in outcomes for the two groups.

The qualitative interviews, similarly, found little difference between CJS and non-CJS referrals. A key similarity that emerged from the qualitative interviews was that levels of motivation did not seem to differ by referral status thus further reinforcing drug treatment as an equally valid route for CJS and non-CJS referrals.

Cost-effectiveness of drug treatment

The DTORS economic analysis estimated a net saving of £6,500 per person for drug treatment, compared to no treatment. There was a net gain in health as measured by QALYs. With drug treatment costs of around £4,500 this implies a cost-benefit ratio of around 2.5:1 if the savings from reduced offending behaviour are included. The results also suggest that, across the relevant range of possible values for the gain of one QALY in people who seek and use structured drug treatment, drug treatment has around an 80 per cent chance of being cost-effective for that individual.

Implications

The findings from the DTORS survey show that despite the changing landscape of drug use and treatment in England, drug treatment is still effective in reducing a range of harmful behaviours associated with problem drug use and it is cost-effective.

The study found that the majority of treatment seekers received care-co-ordinated treatment, expressed satisfaction with their care, were retained in treatment beyond three months, and reported significant and substantial reductions in drug use and offending as well as improvements in social functioning.

The findings lend credence to referral into drug treatment via the CJS. There were few differences in outcomes between CJS and non-CJS referrals and there were no apparent differences based on referral routes in motivation levels among the treatment seekers interviewed.

The findings also highlighted the multiple needs of treatment seekers and the requirement that treatment is sufficiently flexible to meet this wide range of needs. A key challenge for treatment providers in this respect is to engage as fully as possible with partner organisations from health, housing and social welfare.

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