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.

▶ Effect of initiating drug treatment on the risk of drug-related poisoning death and acquisitive crime among offending heroin users.

Pierce M, Bird S.M., Hickman M. et al.

International Journal of Drug Policy: 2018, 51, p. 42–51.

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At issue was whether by successfully referring heroin users to treatment, probation services in England would protect them from fatal overdose and prevent drug-related crime. Yes to one, but not the other, were the answers; in fact, crime went up.

SUMMARY Using data routinely collected in England, the featured study investigated whether by contacting treatment services shortly after being assessed by probation, heroin-dependent offenders reduce their risks of fatal drug-related poisoning ('overdose') or engaging in revenue-raising ('acquisitive') crime. 'Contact' was defined as attending a triage appointment at a treatment service, regardless of whether the offender continued into treatment. By implication, the study also assessed the utility of probation officers referring heroin-dependent offenders to treatment, possibly why many of the contacts happened.

Key points
From summary and commentary

The study addressed the question: For heroin users identified in the community by probation services in England, what effect does initiating contact with drug treatment services have on drug-related mortality and acquisitive offending?

Under 1 in 10 heroin-using offenders attended a treatment triage appointment within two weeks of their probation assessment. Fewer of those who did suffered a drug-related death, but they also committed more revenue-raising crimes.

Unmeasured factors distinguishing the minority who quickly attended a triage appointment from those who did not may have accounted for the findings, which nevertheless cast doubt on the crime-prevention effects of referring heroin-using offenders to treatment.

Records for the study derived from the period April 2005 to the end of March 2009. Relevant offenders were identified from routine, structured assessment interviews between offenders and probation officers, which aim to assess an offender's recidivism risk and identify their needs; the results are recorded in the Offender Assessment System (OASys) database. Assessments may form part of a pre-sentence report to the judge, or be used to help manage offenders after sentencing, for example, after release from prison under probation supervision. Assessments were included in the analysis as long as they documented at least weekly heroin use by an offender aged 18–64, and the interview took place on or before 1 March 2009. These criteria netted 117,044 assessments, further whittled down by excluding: those conducted in prison or followed by a prison sentence; when the offender was already in or within the last four weeks had left treatment (totalling 55,118 assessments or 47% of the 117,044); or was already in the study. The aim was to exclude offenders whose risk of death and engaging in crime was restricted by imprisonment, and those already protected by current or recent treatment. Along with other considerations, this reduced the assessments to 14,802 involving

13,204 individual offenders.

Treatment, criminal justice and mortality data were used to track what happened to these offenders up to a year after their probation interviews. Whether they were at least formally assessed for treatment in the form of a triage appointment with a key worker was recorded by the National Drug Treatment Monitoring System. If the offender saw the key worker within two weeks of their probation interview, they were classed as having initiated treatment contact [presumably as a result of the interview]; otherwise they were classed as a non-initiator, even if they later started treatment. Two weeks was chosen because a longer period would mean assessment results might no longer be relevant. At issue was whether initiating treatment contact was associated with a reduced risk of that offender later suffering a fatal overdose or being recorded as having committed an acquisitive crime.

Random allocation of offenders to initiate or not initiate treatment contact was not possible, so the researchers devised other ways to minimise relevant differences between offenders who chose these options. The objective was to leave treatment contact itself as the main factor associated with overdose death or acquisitive offending, strengthening the implication that contact actually contributed to altering these risks. To this end, a successful attempt was made to closely match each treatment-initiating offender with up to five non-initiators on a constellation of risk factors derived from probation assessments and the offenders' criminal histories. Matching data was incomplete for 30% of probation assessments. The analysts first excluded these assessments from the analysis, and then to check the findings included them by estimating what the missing scores might have been. The effect was to increase the number of initiator assessments which could be included in the analysis from 908 to 1,201.

Across all 14,802 probation assessments, in just under 6 in 10 the offenders were living in unstable accommodation, and in over 9 in 10 they were unemployed. On average offenders were in their early 30s and had typically committed non-serious acquisitive crimes to finance their drug use as part of an established pattern of similar offending. About three-quarters used heroin daily, but only just over a quarter were motivated to tackle their drug misuse more than "somewhat". Of the assessments, just 1,271 or 9% were followed within two weeks by a treatment triage appointment. These 'initiators' were more likely to have been assessed as the result of a pre-sentence report and to use heroin daily (79% v. 72%), and less likely to have acknowledged a significant drinking problem (10% v. 14%). However, even among daily heroin users, just 9.4% attended a triage appointment.

Main findings

Treatment contact was associated with a lower overdose death rate but, unexpectedly, with more acquisitive crime.

Overall there were 84 **drug-related poisoning deaths**, equivalent to a death rate of 6.5 for every 1000 people over a year. As expected, at 2.7 the rate was much lower when within a fortnight the probation assessment had been followed by treatment contact than when it had not, when the corresponding figure was 6.8. After matching offenders on pre-existing risk factors, the difference increased to 2.6 v. 7.7, a statistically significant difference highly unlikely to have been due to chance. The difference remained large (2.9 v. 6.8) when assessments with incomplete data were included, but this gap just missed the conventional criterion for statistical significance.

The overall rate of recorded **acquisitive offending** was equivalent to 0.67 offences per person over a year. Contrary to expectations, at 0.82 the rate was actually 22% higher when within a fortnight the probation assessment had been followed by treatment contact than when it had not (0.66). After matching offenders on pre-existing risk factors, the difference narrowed to a statistically insignificant 8%. It rose slightly to 10% when assessments with incomplete data were included, a statistically significant difference equating to 11 crimes after treatment initiation for every 10 committed after non-initiation, confirming that treatment contact was associated with more acquisitive offending.

The directions of the findings remained the same when the two-week window for initiating treatment contact was shortened to one week or lengthened to four, though results for drug poisoning deaths were no longer statistically significant. The increase in acquisitive crime associated with initiating treatment contact remained statistically significant and

the gap increased slightly, equating in both cases to 12 crimes after treatment initiation for every 10 after non-initiation. Within the four-week window, 13% of probation assessments had been followed by treatment contact.

The authors' conclusions

The study was designed to help answer the question: For heroin users identified in the community by probation services, what is the effect of initiating contact with drug treatment services on future drug-related mortality and acquisitive offending? The findings raise questions concerning referral of heroin-using offenders for treatment as a means of reducing offending, because initiating treatment contact was not associated with a lower risk of acquisitive crime. However, if confirmed with further good-quality evidence, reduced drug poisoning deaths could provide sufficient justification for continued investment in treatment, especially given recent record deaths figures.

However, small numbers (there were just three deaths after initiating treatment contact) mean that in isolation the featured study cannot be taken as convincing evidence of a reduction in deaths due to referral to treatment. Moreover, this was not a randomised trial. Matching procedures resulted in the compared initiator and non-initiator samples being well matched on variables available to the researchers. Nevertheless, rather than initiation of treatment contact, inadequate measurement or further unobserved variables might account for the findings. For example, the probation interview mainly assesses the risk of further offending and might be less effective at identifying drug treatment need. Most variables on which the assessments were matched derived from the offenders' own accounts, which may have been biased, and possibly more so or differently among initiators versus non-initiators.

The unexpected association of treatment contact with a heightened rate of offending is one reason to believe that something other than this contact was affecting crime rates. After matching on the available variables, the gap between initiators and non-initiators shrank from 22% to 8%, suggesting that these variables were influencing both treatment choice and crime rates. However, only a similar degree of influence by unobserved variables or biased measurement would reverse the increase in crime. Given the number and range of variables used to match the samples, this seems unlikely.

Other studies and reviews have investigated not initial treatment contact, but the impact of being in versus out of opioid substitution treatment for dependence on heroin and allied drugs (1 2 3). Their findings of reduced drug-related deaths associated with being in treatment are consistent with those of the featured study, reinforcing the impression that treatment is protective. But contrasting with the findings of the featured study, other studies have found crime rates were lower in versus out of treatment.

An obvious possible reason why these other studies recorded reductions in both deaths and crime is that they aimed to assess the impact of actually receiving treatment. The featured study assessed only initial contact, which may not have been followed by sustained treatment; following their triage appointment, 6.4% of the offenders received no treatment at all. Perhaps too, treatment is less effective among offenders referred from within the criminal justice system, as 63% were in the featured study.

A striking incidental finding was how few of those identified by a formal probation assessment as regular heroin users (and therefore seemingly suitable for treatment) went on to seek treatment.

FINDINGS COMMENTARY As the researchers explained, the implications of their results are insufficiently convincing to warrant abandoning the referral of heroin-dependent offenders to treatment as a crime prevention tactic. In particular, there was no sharp divide between initiators and non-initiators on variables indicative of need or motivation for treatment, and it remains unclear what distinguished the 9% who did rapidly attend a treatment triage appointment from the over 9 in 10 who did not. Whatever it was, it was not adequately captured by the study, leaving

a doubt over whether the findings were due to treatment contact, or due to missing factors related both to treatment contact and offending or risk of overdose death. If there were such missing factors, it might explain why treatment contact apparently helped reduce overdose deaths but not crime, despite the fact that the main mechanism for both effects would have been reduction in heroin use due to being in treatment. In other words, the question becomes – if reduced heroin use saved lives, why did it not also reduce the crime needed to finance that heroin use? In the absence of answers to this question, it could be that the study raises what further research would reveal to be unjustified doubts over referring heroin-using offenders to treatment as a crime prevention tactic.

These doubts are not weakened by the fact that only initial contact was evaluated. In England crime has been found to fall in the two years after opiate users who offended in the previous two years actually started treatment after triage, and fell by even more if they had successfully complete or stayed in treatment. But the featured study showed that such potential benefits are on average missed altogether following a probation assessment. Possible reasons are that so few offenders who might benefit from treatment attend a treatment service for assessment (more below), and that a small proportion who do attend go on to engage with treatment (more below). In turn these factors may be related to the fact that nearly half the probation assessments potentially eligible for inclusion in the analysis were excluded because the offender was already in treatment (these on their own formed 44%) or had recently left. It could be that offenders who would engage with and most benefit from treatment contact had already done so, leaving the analysis with the least motivated and most treatment-resistant, accounting for poor treatment contact rates and no consequent reduction in crime. Reliance on recorded proven crime is bound to seriously underestimate the total number of crimes which might have been admitted to if the offenders had been able to be asked. If people who turned up for treatment triage were also for some reason more visible to the police, this could create the impression of a higher crime rate even if in reality it was lower.

Why so few treatment contacts?

Given the emphasis at the time on the treatment of heroin and crack dependence as ways to reduce crime, the authors' surprise at how few heroin users contacted treatment services is understandable. Even in the more generous four-week window, just 13% of probation assessments had been followed by treatment contact. If all these were daily users of heroin, 18% of daily users would have attended a treatment service up to four weeks after being identified as such by probation services, leaving over 4 in 5 unable to be protected by treatment, despite a detailed assessment by probation.

Conceivably waiting times for triage appointments were so long that even four weeks missed many offenders who had actually contacted a treatment service to arrange an appointment. However, this seems unlikely. In the last three years of the study period, routinely collected data showed that about 90% of patients who contacted a treatment service began their treatment within three weeks of referral. This seems a substantial improvement on the years before the study period, when in 2000 to 2001 the half of English drug treatment services who responded to a survey reported waiting times from referral to assessment averaging eight weeks.

Another possibility is that when the assessment was for a pre-sentence report or sentence review (as 37% were), offenders and probation officers decided to wait to see if the court imposed treatment as a requirement of a probation order and/or as an alternative to a more severe sentence, rather than 'jumping the gun' by arranging treatment in advance which might not meet the court's requirements. However, certainly for pre-sentence reports, the figures do not bear this out.

The findings of the study derive from a time before private and charitable community rehabilitation companies took over responsibility from probation

services for supervising all but the highest risk offenders. If this move has eroded expertise and experience in the sector, that even before then the successful treatment referral rate was so low is a major concern.

Findings reinforced by other studies

That successful referral rates for offenders were very low during the time period of the featured study was borne out by a Home Office study conducted in 2005 to 2006. It concerned people arrested or charged in England with an offence (mainly revenue-raising crime) which 'triggered' a test by police for heroin or cocaine use. Those who tested positive were required to see a drug worker for an assessment of their drug problems and treatment needs, a process equivalent to the triage appointment evaluated by the featured study. As a result of these procedures, just 5–6% of tested arrestees started structured treatment who might not otherwise have done so, and about 1% stayed for 12 weeks, considered a yardstick for a possibly effective 'dose' of treatment. Of those assessed by drug workers, 3% stayed for this period, and of those who started treatment, just under a quarter – very poor treatment entry and retention rates.

As in the featured study, this earlier study also suggested that the procedures could be counterproductive in reducing crime. The test-on-charge procedures identified 2,172 heroin or cocaine users with no convictions for offences committed in the past six months, but in the next six months they committed crimes which resulted in 2,492 convictions. Overall the conviction rate was either unchanged or increased for just over half (53%) the identified drug users. Around a quarter (28%) showed a sharp increase in the volume of offending.

In the most rigorous study to date, the same procedures were evaluated in one English police force area using data relating to arrestees who had tested positive for recent use of heroin or cocaine in a 12-month period spanning 2007 and 2008. It found that compared to matched arrestees who did not attend to be assessed for treatment, attending an assessment neither led to greater engagement with treatment nor greater reduction in crime. Just 26% of those assessed had started treatment within about five months, and four in ten who did had dropped out within a year of being tested for drug use. Most worrying, the likelihood that an arrestee would be cautioned or convicted in the 12 months after testing was 44% greater among arrestees who did start treatment within five months than those who did not. For treatment the most favourable interpretation is that choosing to start treatment was a marker of the severity of the arrestee's substance use and related problems. The least favourable is that treatment was counterproductive.

Thanks for their comments on this entry to Nino Maddalena, Criminal Justice Manager in the Alcohol, Drugs, Tobacco and Justice Division of Public Health England, and Mark Gabbay, Professor of General Practice, at the University of Liverpool in England. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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