How much does it take to retain a patient in treatment?

A baseline study for an audit of substitute prescribing to opiate addicts and retention in treatment.

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INTRODUCTION

The National Treatment Agency for Substance Misuse (NTA, www.nta.nhs.uk) is a special authority within the National Health Service (NHS) established by the government in 2001 to improve the availability, capacity and effectiveness for drug misuse in England. In addition to existing indicators, client retention is being used as one of the indicators of quality of structured treatment, as the evidence strongly suggests that the longer a patient with an addictive disorder stays in treatment, the better the outcome (Gossop *et al* 1999, Gossop *et al* 2001a, Simpson *et al* 1997). The NTA has defined retention rate as the percentage of clients who at the time they were discharged had remained in structured treatment for at least 12 weeks from the date of triage (NTA 2006). The National Treatment Agency requires improvements in 12-week retention rates of drug addicts.

For opiate dependent patients, Opiate Substitution Therapy with methadone and buprenorphine are established treatment options. They are synthetic opioids, which in addition to their psycho-active properties have powerful analgesic action. Meta-analysis has shown the effectiveness of methadone maintenance across a variety of contexts, cultural and ethnic groups and study designs. (Marsh, 1998). Methadone doses have been related to retention rates (Strain 1993, Caplehorn & Bell 1993), with higher doses associated with improved treatment retention and reductions in illicit drug use.

Buprenorphine was more recently licensed for substitution therapy, and there is increasing evidence of its effectiveness. (Ling et al, 1998) It is a semi-synthetic opioid derived from thebaine, a naturally occurring alkaloid of the opium poppy, *Papaver somniferum.* The pharmacology of buprenorphine is unique in that it is a partial agonist at the opioid mu receptor. (Elkader & Sproule 2005)

The aim of this study is to establish the relationship between medication prescribed and 12-week retention in two community drug services within Waltham Forest and Redbridge (WF&R) boroughs respectively. WF&R are outer London boroughs with inner city morbidity including drug problems.

This paper reports the baseline findings for an audit aimed at improving retention rates.

METHOD

Health Works (HW) & the Redbridge Drug and Alcohol Service (RDAS) are Community Drug Services that address provide Tier 3 Treatment services for residents of the London Boroughs of Waltham Forest & Redbridge.

Patients who are diagnosed as having problematic opiate use are offered substitution therapy with methadone or buprenorphine as one option for treatment.

Both HW and RDAS are specialist drug treatment services of the North East London Mental Health Trust and have the same computerised prescribing system (Advantage, Blithe Computer Systems Ltd). This system has a search facility which allows review of historical data.

Anonymised patient data and prescription records on the system between 1 April 2004 to 31 August 2005 were accessed.

Patients were excluded if treatment started less than 12 weeks before 31 August. Treatment was deemed to have started on the date the prescription commenced as patients routinely receive triage assessments, urine drug screening and sometimes blood borne virus screening. Other psychological treatment interventions may also have been offered prior to substitute prescribing. Following the initial triage assessments, all patients deemed suitable for substitute prescribing following a multidisciplinary team meeting received a medical assessment by an addiction psychiatrist. The decision to prescribe methadone or buprenorphine was based on a number of factors including history of drug use, previous treatments, patient preference and clinic practice. Patients are given the opportunity to discuss with their key worker and Team doctor whether they would prefer methadone or buprenorphine, and agree a dose on the basis of the history, the previous experiences of the patient in treatment, and clinic practice.

As well as basic demographic data such as age and gender, information on each of the prescriptions was obtained, that is medication, daily dose and duration of prescription. Patients who had prescriptions over a 12 week period were deemed to have been retained in treatment and those with a discharge date before 12 weeks were considered not to have been retained.

Statistical note. This retrospective study does not have patients randomised to similar groups. We have therefore not applied any statistical tests to the data.

RESULTS

In 18 months, 217 patients had 226 episodes of treatment. The number of patients who had a second episode of treatment was too small to provide any meaningful data comparing the two episodes.

Around 80% of the patients were male and the mean age for all patients was in the early 30% (Table 1). This is comparable with other samples of patients in drug treatment, such as NTORS, 74% of whose clients were men and whose clients had an average age of 29 years (Gossop *et al* 2001b).

Table 1 shows that the 12-week retention rates of patients prescribed methadone was 69% with mean dose of 51mg, and that of those prescribed buprenorphine was 43% with mean dose of 11mg.

Age did not seem to distinguish those patients on methadone who were retained for 12 weeks from those who were not, but for buprenorphine those who were retained were approximately 5 years older.

Those who were taking methadone were more likely to be retained in treatment if they had a slightly higher daily dose (about 6-7mg), but the situation in the case of buprenorphine was complicated, with Waltham Forest retaining patients on a lower dose than those who were not retained, but Redbridge retaining patients on a higher dose. For patients in both boroughs, the patients who were retained on buprenorphine were on average older than those who were not retained, suggesting that the age was not a cause of the different response to buprenorphine in the different boroughs.

DISCUSSION

Our finding in this naturalistic study was that methadone has a 69% retention rate at 12 weeks, but buprenorphine 43%. This is similar to the Cochrane review (Mattick *et a* 2006), which found that methadone was more effective at retaining patients.

	Redbridge		Waltham Forest		Both boroughs	
	M	B	M	B	M	B
Total No in treatment	61	59	53	53	114	112
No in treatment for ≥ 12wks	44	26	35	22	79	48
Percentage in treatment for ≥ 12wks	72.1	44.1	66.0	41.5	69.3	42.9
Average age						
All patients in treatment	34.2	30.4	33.4	32.6	33.8	31.4
In treatment for ≥ 12wks	34.4	32.1	33.1	36.4	33.8	34.1
In treatment for < 12wks	33.8	29.2	33.9	29.8	33.9	29.5
Gender						
Male	49	50	43	42	92	92
% Male	80.3	87.7	81.1	79.2	80.7	83.6
Average Daily Dose (mg)						
All patients in treatment	50.6	12.0	51.5	11.2	51	11.6
In treatment for ≥ 12wks	51.9	13.7	54.4	9.3	53	11.7
In treatment for < 12wks	47.1	10.7	45.8	12.5	46.4	11.6

Table 1: Demographic data, retention and dose by medication and by clinic

NTA (2006) records 52% retention in 2003/4 and has a target of 62% by 2008. Methadone treatment in our service meets this target, but buprenorphine does not.

Various studies address the matter of dosage in opiate substitution therapy

Methadone

Strain *et* al (1993) found that a daily methadone dose of methadone of 50mg was more effective in retaining patients at 12 weeks than a dose of 20mg, which was itself more effective than a dose of 0mg
Strain *et* al (1999) comparing a daily dose of methadone of 50mg with a daily dose of 100mg found a greater decrease in opiate use with the higher dose, but no difference in the retention rate
Johnson *et* al (2000) found that a daily dose of methadone of 60-100 was associated with 85% retention at 12 weeks
Faggiano *et al* (2006) conclude a literature review that 60-100mg methadone daily is more effective at retaining patients than lower doses.

Buprenorphine

Ling *et* al (1998) found that a daily dose of buprenorphine of 16mg was associated with better retention than a daily dose of 8 or 4 mg. All these doses were associated with greater retention than 1mg daily.
Johnson *et* al (2000) found that buprenorphine at a daily dose of 16-32mg was associated with 65% retention at 12 weeks

We are aware that factors that might contribute to the retention rate, such as extent of drug use, poly-substance abuse, therapist characteristics as well as social and health issues have not been accounted for in this study.

Nevertheless, we think the literature shows that the doses are probably a little low, and therefore our audit action is to aim to increase the average daily doses prescribed in our services to 60mg methadone and 16mg buprenorphine, in accordance with current guidelines (NTA 2004, RCGP 2004)

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