CAUTION: This is the text underlying the published version of the same item. It may not incorporate late revisions and corrections. Neither the text nor the citations were finalised for publication so may be inconsistently presented and sometimes take the form of notes rather than polished text. It is offered as a source of additional information and citations but should not be relied on, especially when it departs from the published version, for which click HERE. For further information or to comment on this draft contact editor@findings.org.uk.

© Drug and Alcohol Findings 2004. Permission is given to distribute this document unamended electronically or on paper or to incorporate passages in other documents as long as the source and copyright owner are acknowledged including the web address http://findings.org.uk.

Nugget 10.1

Retention is not just about motivation

Findings A major study has confirmed that the link between treatment retention and outcomes is not simply due to motivated clients staying longer.

In the mid-90s a national US study tracked 4005 clients who had just started treatment. The dominant drug problem was cocaine/crack.¹ To assess their progress the peak frequency of illegal drug use during the year before treatment was compared with (roughly) the year after it had ended.

Even after short stays there had been significant reductions but generally these increased the longer the client had been in treatment. To eliminate the possibility that this was simply because more motivated clients stayed longer, the analysis adjusted for the importance clients attached to treatment at intake and the degree to which they had *already* reduced their drug use. On this basis the benefits of staying longer were most apparent for long-term residential rehabilitation programmes. The same was true but to a lesser degree of long-term non-residential programmes, but not of short residential programmes (where most people stayed for just three weeks) nor of methadone maintenance, where what looked like a long-stay effect was due to longer stays meaning shorter post-treatment follow-up periods. There was no sign for any of the programmes of a 'cut-off' point above which there was a sharp improvement in outcomes.

Except in methadone maintenance (where pre-treatment motivation seemed irrelevant), the greater the importance attached to treatment, the better the outcomes. But the overriding factor was peak drug use frequency before entering treatment; the higher the peak, the greater the reduction after treatment. Once this was taken into account, treatment motivation was no longer influential. What remained influential (again, with the exception of methadone programmes) was cutting drug use before treatment entry. In other words, the more someone needed to cut down because of their excessive use, and the more they had acted on this need before entering treatment, the better the outcomes.

In context Retention is one of the variables most consistently related to better outcomes. As in the featured study, the form this relationship takes is different for methadone programmes where the most important factor is *remaining* in treatment rather than having *been* in treatment for a long time. What the study adds is a robust confirmation that increased retention improves outcomes regardless of the client's motivation. The importance of this finding is that it suggests that taking special measures to improve retention can improve outcomes – it's not just that both are immutably determined by the client's motivation.

It is also one of several studies to find that lower levels of cocaine use at intake are associated with better outcomes. What it adds is a new possible explanation for this finding – rather than such clients always having a less severe drug problem, it could be that they have already taken steps to reduce severity.

Practice implications Increasing the proportion of clients sustaining (or completing) treatment is a national UK target. However, other targets and performance indicators might encourage services to limit stays. How this is working itself out is unclear.

To maximise client benefits, services will need to consider how they can improve retention. Specific initiatives supported by research include induction period activities to clarify the treatment process and to deal with concerns and misconceptions and, in methadone programmes, individually and flexibly adjusted doses. The study also suggests that it is worth trying to curb cocaine use in the run-up to treatment rather than simply leaving clients to wait.

Beyond such specifics, some broad principles emerge from the literature. These include establishing an organisation and a counselling style responsive to the client as a human being with needs and ambitions beyond those related to drugs. Another is an organisational ethos and interpersonal style which conveys understanding, liking and warmth, and optimism in the client's ability to benefit from the treatment. A third is to place oneself in the shoes of someone apprehensive about what they may be getting in to, unsure it will work, often with a record of failure/being failed, and used to being treated without a great deal of care and respect. Much of what research has found to work could be predicted from this perspective.

Featured studies Zhang Z. *et al.* "Does retention matter? Treatment duration and improvement in drug use." *Addiction*: 2003, 98, p. 673–684. Copies: apply DrugScope.

Contacts Dr Zhiwei Zhang, NORC, University of Chicago, 1350 Connecticut Avenue NW, Suite 500, Washington, DC 20036, USA, zhang-zhiwei@norcmail. uchicago.edu.

Nuggets 9.7 9.2 • The grand design: lessons from DATOS, issue 7.

Appendix to Nugget 10.1

NB This appendix is not nor is it intended to be a comprehensive review of the literature but to be sufficient to support the statements made in the main text.

Relevant national targets

The 2002 update to the UK's national drug strategy targets a year on year increase in the proportion of drug users successfully completing or sustaining treatment.² In England retention is monitored and reported on by the National Treatment Agency but is not one of the agency's key performance indicators. Instead these refer to the number of clients who either complete a course of treatment and/or are referred out of that treatment agency to another in a planned way.³ Another key indicator aims to increase the proportion of clients who are new to treatment. The national plan also calls for an increase in the treatment population which is monitored as the number in treatment at any time during the year. 4 Conceivably services could seek to improve their standing on these indicators by decreasing scheduled treatment stays and referring clients on as soon as possible, creating space for new referrals and decreasing the time commitment needed to register treatment completion. Whether this is happening is unclear. Figures based on a 15% sample of treatment services indicated that average retention periods have dramatically increased⁵ yet monitoring data from all drug treatment services indicates that over the same time period slightly fewer people entering treatment during a financial year were still there at the end.6

The importance of retention

For drug treatment services in Britain, engagement and retention are already important areas for improvement and are likely to become even more so. New clients are increasingly being channelled into treatment via criminal justice routes, many of them cocaine, cocaine/heroin and especially crack misusers.^{7 8} The Audit Commission recently reported that this group did not find that drug services met their needs.⁹ Without a substitute drug to anchor clients to the clinic, for stimulant users the 'softer' dimensions of treatment, such as how the client is treated, become all the more significant, while the challenge faced by services dealing with criminal justice referrals is indicated by the very high level of revocation of drug treatment and testing orders in England.¹⁰

Room for improvement in retention is apparent in results from the English National Treatment Outcomes Research Study (NTORS), which documented outcomes for a predominantly opiate-using population. For residential services, it identified retention times associated with greater post-treatment improvements in abstinence from opiates and stimulants, injecting drug use, and crime. The periods were one month for inpatient programmes and short-term rehabilitation and three months for longer term rehabilitation. Most clients left before these times: 80% in inpatient programmes and 36% and 60% in short- and long-term rehabilitation. However, new figures from the National Treatment Agency suggest that there has recently been a dramatic improvement in average retention from under two months in 2001 to nearly seven months in 2003. It is unclear why this is not reflected in national drug treatment monitoring data.

While methadone treatment does have an impact which to a degree 'sticks', especially after longer stays (in some research, at least a year), like other studies, ^{14 15} DATOS suggests that the key thing is *remaining* in treatment. As normally implemented in the UK and in the USA, it seems more like a switch than a progressive transformation. ^{16 17 18} Benefits in terms of reduced illegal opiate use are relatively rapid but any unplanned termination carries a high risk of relapse. In NTORS, 38% of maintenance patients had left by one year and 58% by two years. At both points the treatment leavers had worse outcomes. For example, at two years people no longer in their original programmes were twice as likely to be using heroin regularly. ¹⁹

Findings were similar in the national US Drug Abuse Treatment Outcome Studies (DATOS), where rates of unplanned exits hugely varied even within the same type of service seeing the same type of clients. For example, in DATOS's methadone units, at one extreme six out of seven clients left within 12 months, at the other three quarters stayed for at least this period.²⁰ Similar ranges (this time of threemonth retention rates) were found among the other long-term treatments. It wasn't that some programmes actually intended client stays to be shorter; something was causing unplanned early departures and it was found in far greater quantities in some programmes than others. In DATOS as in NTORS, retention was an important marker of good outcomes. In the methadone programmes continuing retention was the main factor²¹ while in long-term residential programmes, where the clients were mainly cocaine users, those who stayed for more than three months were much less likely to use cocaine after leaving. ²² ²³ In substance misuse treatment generally there has been a recent re-emphasis on the importance of the duration of treatment contact rather than the intensity.²⁴ ²⁵ In one study of alcohol treatment contact periods of six months or more were associated with the greatest improvements in drinking outcomes up to eight years later relative to non-treated drinkers. ²⁶ But, as in other studies, here too even short (under eight weeks) treatments were associated with significant improvements.²⁷

Retention is just one dimension (the most easily measured one) of engagement. Sometimes deepened engagement may actually shorten retention because clients are ready to leave sooner.²⁸ But generally retention is a sign that clients are actively 'working the programme', attending counselling sessions, talking about the things that matter, forging a therapeutic relationship with their counsellor and/or other clients, getting extra help if needed. This is what makes the difference to outcomes and which services must aim to foster.^{29 30 31 32}

Much of what is needed to improve engagement is basic to service provision in sectors well beyond the drugs field: making treatment convenient to enter and to attend allied with an awareness of what makes clients feel welcome and supported, that they are making progress, being treated with respect and that their concerns are being responded to. The research which has been done on addiction treatment backs up this common sense sufficiently to suggest that further progress on these fronts is likely to be valuable, even if a particular initiative has not been specifically investigated.

Making the most of the first contact

Across a spectrum of client types and treatments, early initiation of treatment after first contact means fewer clients drop out in these early stages without damaging (and sometimes improving) longer-term retention.³³ ³⁴ ³⁵

Starting induction after intake but before a client enters treatment has sometimes been found to help prevent later drop out. 'Role induction' interventions seek to clarify what will happen and what will be expected of the client, allaying concerns and correcting misconceptions. In one study this worked best when specific to the particular therapy the client was to enter.^{36 37} Just 15 minutes spent clarifying what the client could expect from the outpatient therapy to follow meant that 40% more returned for their first therapy session.³⁸

In residential services, too, extensions to induction procedures can have a significant impact. A therapeutic community for alcohol and drug users in Texas was faced with the typically low motivation of clients coerced into treatment through the criminal justice system. The service developed a readiness training course consisting of highly interactive activities, exercises and games, intended to lead residents to construct their own reasons for participating in treatment. ^{39 40} As a result, they felt their counsellors and the resident-led meetings were more helpful, that they and others were participating more fully in the programme, and that overall the treatment was more effective, differences which can be expected to have improved retention and outcomes.

Retention was improved in another US study when senior staff helped to induct voluntary residents (mainly cocaine or heroin users) into a therapeutic community. ⁴¹ Intakes either underwent the normal 30-day induction by junior staff or also attended three weekly 'seminars' led by the most experienced workers and intended to elicit and address each individual's particular concerns. The proportion of clients retained for at least 30 days increased from 62% to 77%, largely due to the response from clients who were the least motivated at entry and most likely to leave early.

All these interventions aim to improve the quality of the very first interactions between therapists and clients, or between clients where the client group is the main therapeutic agent. Occasionally this quality dimension has been directly studied. A British study at an alcohol treatment unit⁴² chimes with the US literature on drug dependent clients. Patients were far more likely to regularly attend for treatment if at the intake interview the therapist felt they had liked them and was optimistic about working with them. This the client experienced as warmth and respect for them as an individual. Engagement was further promoted if the client felt the therapist was empathic and understanding. Patients were far more likely to engage with therapists who generally scored higher on these dimensions. It was probably important that the intake interview was conducted by the therapist the patient would continue to see. Continuity sometimes aids retention,⁴³ but seemingly not when to the client, the prospects for understanding and respect seem bleak. Similarly another study found that the more anger and anxiety in a clinician's voice at the initial session, the less likely alcohol patients were to engage in treatment.⁴⁴

The involving organisation

Certain features particularly of how residential services are run affect how deeply clients engage with therapeutic processes and as a result how well they do. US studies have found that the best services clearly communicate their policies to clients yet permit client involvement in running the programme, adhere to a distinct therapeutic approach with structured activities, 45 actively and coherently target client development (psychologically, in their interpersonal and vocational skills and in their lifestyles), have a lower staff-resident ratio, 46 and a supportive social environment in which residents feel free to express themselves. 47

From the DATOS study we can add that a climate of absenteeism from resident group sessions tends to undermine confidence in and commitment to the programme, even among those who do attend. In non-residential programmes, absenteeism is less visible and was found to have no significant impact, but early responsiveness to patient needs (expressed in referral to ancillary services) did seem to foster a climate which generated confidence in the programme over the following months.

Responsiveness is an important variable probably partly because of its direct effect on problems, but also because it signifies that the client is being cared for as a rounded individual. Nationally in the USA, services (especially methadone services) which tend to individually match clients to the help they need and formally involve the client in their care planning have a better record on achieving abstinence.⁴⁹ In New York patients stayed much longer at methadone clinics which responded constructively to their problems such as by adjusting doses and offering and arranging further help.^{50 51}

A similar story emerges from studies of non-prescribing services. Entrants to non-residential treatment in Los Angeles stayed longer when the vocational, transport and childcare services they wanted before treatment were actually delivered. ⁵² Generally, the more services were matched to needs, the longer clients stayed. In this study the services actually had the desired impact on the targeted problems. Comparison with another similar study in the same city⁵³ suggests that it is not (or not just) whether housing, employment and other problems are resolved, but whether the treatment agency played an effective part in this resolution which helps improve retention and outcomes.

Transportation was found influential in improving attendance of clients in US outpatient counselling services but even more so in methadone services, which typically demand daily attendance.⁵⁴ Clients were more likely to attend if the service provided transport, whilst services which left the client to arrange their own public transport and reimbursed them did not improve retention. In fact, counselling services which reimbursed had half as many clients who stayed for 90 days as those which provided no help at all. The researchers could only surmise why this was the case, but anyone who has had to complete forms in order to claim trifling expenses will be familiar with the feeling this generates of a bureaucratic and untrusting institution.

Responsiveness can be embedded in procedures

The studies mentioned above observed service inputs rather than changing them to

see what happens, making it difficult to be sure that outcomes were actually caused by factors such as responsiveness. A few studies have taken this extra step. The directors of four Philadelphia drug and alcohol services were asked to provide vocational, family or psychiatric services to randomly selected clients with severe problems in these areas. ⁵⁵ Other clients with such needs received standard treatment. Systematising responsiveness to need in this way improved treatment retention (outpatient only) and completion rates and six-month outcomes in the targeted areas, as well as reducing arrests and the need for further treatment. This was a particularly stringent test because there was nothing stopping the other clients also receiving these services (which were available from agency staff on-site) and many did, but to a lesser degree.

Similar results were achieved by using the same system to pick up on need (scores on the Addiction Severity Index), but going further in meeting these needs by introducing case management, and this time the benefits extended to alcohol outcomes. Fatients who had been through these enhanced programmes were a tenth as likely to have needed further addiction treatment within six months of leaving. Similarly, Illinois set out to improve access and outcomes for women drug abusers with children by providing childcare, transportation and outreach at selected agencies. It meant that the women at these agencies were able to receive a greater range of family, medical and social services and as a result 14 months later were much more likely not be using alcohol or illegal drugs.

In studies where the 'responsiveness' enhancement was an add-on and the core programme and staffing were unchanged, the outcome targeted by the core programme – illegal drug use – is also unaffected.^{58 59} In other studies, such responsiveness seems a signal of a generally more responsive organisation which also enhances drug use outcomes.⁶⁰

The ultimate in responsiveness is patient choice. Where what the patient wants is feasible and likely also to correspond to what's needed, this is an effective tactic. The clearest example is methadone dosage. Studies to date^{61 62 63 64 65 66 67} indicate that patient self-regulation of dose achieves better drug use outcomes than a doctor-decided inflexible regime or one with a bias towards minimising doses. However, letting the patient choose does not improve on flexible regimes which prioritise drug use outcomes and client functioning and comfort rather than minimising doses. In other words, flexibility and responsiveness in pursuit of shared goals is the key, not in whose hands the decision nominally lies.

All these studies suggest the importance of a management which systematically establishes a climate of responsiveness and care within a coherent, energetically pursued and holistic treatment philosophy. Rarely has this critical leadership role been directly investigated. An exception is a study of New York's methadone clinics which found that cocaine or heroin positive urines (indicating poor response to treatment) were lower in clinics with more experienced directors who were more involved with the treatment process.⁶⁸ Direct client contact was particularly influential early in treatment and they were also thought to influence outcomes by establishing a positive therapeutic tone.

Importance of the client-counsellor relationship

Organisational factors impinge on the client largely through the interface with their counsellor or key worker. Here, even in methadone treatment, where dose is usually considered primary, the individual makes a big difference to outcomes. ⁶⁹ In one study this seemed partly due to differences in responsiveness to the client, in the ability to forge an empathic relationship, and (probably related to empathy) in the ability to anticipate and forestall problems. ⁷⁰ The influence of the counsellor is most sharply thrown into relief when dosage is taken out of the equation by being allowed to rise to meet patient need. A US clinic which operated such a policy and which allocated patients to counsellors at random, found that the 'best' worker had patients with urines free of cocaine or heroin 80% of the time, the 'worst' just 40%. ⁷¹

Researchers responsible for the national US DATOS study have done most to disentangle the influence of the client-counsellor relationship. They found that across a range of treatment settings and with both heroin and cocaine dependent clients, how committed the new client was to changing their life through treatment had a major impact on how long they stayed, itself a marker of how well they were doing. But the crucial finding was that this motivation did not *directly* affect retention. Rather, it did so via other variables which lay at least partly within the service's own hands – the early relationship with the counsellor and through them with the programme.

There were two dimensions to the relationship: its *quality* (feelings of rapport with the key worker and of confidence in and commitment to the programme); and the *quantity* of opportunities for that relationship to exert an effect (number of counselling sessions attended and how often drugs, health and other issues such as employment and housing were discussed).

The important thing is that to a degree all these factors are susceptible to influence. Referral and induction processes can help clients feel more motivated to enter treatment, and even when this falls short 'poorly' motivated clients can be turned round by working on the initial relationship with their counsellor. Compared to these malleable factors, things services cannot change had no direct effect on retention – the client's race, gender and age, their prior treatment history, the drugs they were dependent on, psychological disorders, and whether they had entered treatment under legal constraint.

Rapport, helpfulness and communication

Similar implications have emerged from other studies, most notably on counselling services in Los Angeles which saw mainly crack and amphetamine users.⁷³ ⁷⁴ Again, the main factors determining treatment participation and post-treatment abstinence were not who the client was, their pre-treatment history, or their initial motivation, but what happened *in* treatment and how they felt about it.

Among these influences was the client-counsellor relationship: for women, feeling their counsellor cared about them; for men, how helpful they had been. For both genders, feelings of being understood ('empathy') were influential. There was no short cut to achieving these feelings and thereby improving outcomes by simply matching clients to counsellors of the same gender or race. Beyond feelings about the counsellor, for men and women the perceived helpfulness of medical services

was a factor. So too was how useful clients saw relapse prevention, lifeskills inputs and help with getting to the clinic, depending on gender.

Convergent findings came from a study of a very different population and very different service – a structured day programme for "indigent" substance abusers in Texas. Here improvements in psychological functioning were related to trusting one's therapist and feeling that they can be relied on to be caring and understanding.⁷⁵

Much of what is meant by terms such as 'rapport', 'empathy' and 'therapeutic alliance' (seen from either side, a positive relationship which is helping the client move forward⁷⁶) is to do with the ease and accuracy of communication – the feeling of being understood, sometimes without even having to articulate your feelings, 77 and the trust and confidence to open up to your counsellor. 78 Fostering communication skills is an important part of what counsellors aim to do and may contribute to engagement with treatment. 79 But not everyone has the concentration and verbal fluency needed to discuss problems and solutions with a professional therapist. For these clients in particular, a technique called node-link mapping has been found to aid communication leading to improved engagement and outcomes. It involves a visual flow chart of the client's problems and objectives and of the steps needed to reach those objectives. Studies have documented its utility in group and individual settings. In methadone services, it was found to aid communication between counsellor and client groups and to lead to a broader range of issues (housing, jobs, family, etc) being discussed, improving engagement and outcomes.⁸⁰ ⁸¹ 82 83 The technique has also improved engagement with treatment in residential services for adult offenders⁸⁴ and for children.⁸⁵

Client-worker interface is where other influences converge

In DATOS and in the Los Angeles studies, it is not that age, gender, crime and drug use histories, initial client motivation and so on have no influence on outcomes. It is that this influence is via the interface with the treatment provider, and in particular with the counsellor or key worker. The same was found in a study of buprenorphine detoxification and maintenance where the 'therapeutic alliance' between therapist and counsellor had more influence on treatment completion than factors such as dose or addiction severity, especially for people with the greatest psychiatric problems.⁸⁶

Shifting to a more familiar scenario may help communicate the significance of such findings. Instead of the poorly motivated client, a shopper who has had a bad day, is apprehensive about being looked down on by the assistants, has previous experiences of not finding what they want, and who doesn't feel too much like trying again. They may still be won over by an assistant who seems to like them, understand their needs, is confident that they can be met and committed to meeting them, and who will go out of their way to do so, including calling on the help of other staff. Faced with a less welcoming response, the shopper is more likely than most to walk out, but with the right approach some can be 'retained' and a good outcome achieved for both parties. For dependent drug users, research consistently shows that it is the feeling that they are being listened to, understood, and being given helpful, positive responses, which leads the client to 'buy into' the service

engagement.

Limits to the impact of the individual

Convergent findings from disparate studies, clients and settings lend confidence in the overall impression that rapport with one's counsellor is highly influential. But these findings also have their limits. For example, DATOS's methodology meant that the least motivated clients would not have made it through to the analysis, and they may have been the ones even the most skilled and empathic counsellor could do little to hold on to. Also, the services differed hugely, so differences in how they treated their clients can be expected to have been correspondingly great. Where the reverse is the case – a uniform service but a wide range of clients – therapeutic alliance may still be influential, but less so than the problems and characteristics of the clients.⁸⁷

This finding was reported from a residential unit where group processes probably overshadowed the influence of the individual's counsellor. This may also have been part of the explanation for the weak influence of therapeutic alliance in a study of outpatient cocaine counselling. So Clients at these services attended group as well as individual sessions and the group sessions were the most important factor in outcomes. The study also featured highly trained therapists working to expertly constructed manuals, leaving little room for differences in how well they related to clients to influence outcomes.

Pre-treatment initiatives

The featured study suggests that initiatives taken by referral agents or by services which clients are waiting to join which have the effect of reducing cocaine use frequency before treatment might improve treatment outcomes. Other studies too have found that lower levels of cocaine use at or immediately before treatment entry are associated with a better response to treatment. 90 91 92 93 94

- 1 NTIES. National Treatment Improvement Evaluation Study. Preliminary report: the persistent effects of substance abuse treatment one year later. US Dept. of Health and Human Services etc, 1996.
- 2 Home Office etc. Updated drug strategy 2002. 2002.
- 3 Hayes P. Letter to health and local authorities etc, 4 April 2002.
- 4 National Treatment Agency. New figures show real improvement in drug treatment. Waiting times cut, more people receiving treatment" Press statement, 11 December 2003.
- 5 National Treatment Agency. Drug treatment performance data. Appendix B Retention in treatment. This chart indicates that retention has increased from 57 days in July to September 2001 to 203 days in April to June 2003, a period of under two years. In the middle it doubled over a period of six months. The figures are based on a 15% sample of treatment providers.
- 6 National Statistics and Department of Health. *Provisional statistics from the national drug treatment monitoring system in England, 2001/02 and 2002/03*. The proportion fell from 45% in 2001/2 to 40% the following year and the numbers fell from 57400 to 55700.
- 7 Turnbull P.J., et al. Drug treatment and testing orders: final evaluation report. Home Office Research Study 212. Home Office Research, Development and Statistics Directorate, 2000.
- 8 Sondhi A., et al. Statistics from the Arrest Referral Monitoring Programme for October 2000 to March 2001. Home Office, 2001.
- 9 Audit Commission. Changing habits. 2002.
- 10 Clancy A. et al. DTTO one-year reconviction results: early findings. Unpublished, 2002.
- 11 Gossop M. et al. "Treatment retention and 1 year outcomes for residential programmes in England." *Drug and Alcohol Dependence*: 1999, 57, p. 89–98.
- 12 National Treatment Agency. Drug treatment performance data. Appendix B Retention in treatment. This chart indicates that retention has increased from 57 days in July to September 2001 to 203 days in April to June 2003, a period of under two years. In the middle it doubled over a period of six months. The figures are based on a 15% sample of treatment providers.
- 13 National Statistics and Department of Health. *Provisional statistics from the national drug treatment monitoring system in England, 2001/02 and 2002/03*. The proportion fell from 45% in 2001/2 to 40% the following year and the numbers fell from 57400 to 55700.
- 14 Stark M.J. "Dropping out of substance abuse treatment. A clinically oriented review." *Clinical Psychology Review*: 1992, 12, p. 93-116.
- 15 Ward J. et al. "How long is long enough? Answers to questions about the duration of methadone maintenance treatment." In: Ward J., et al, eds. Methadone maintenance treatment and other opioid replacement therapies. Harwood Academic Publishers, 1998, p. 305–336.
- 16 Cacciola J.S. et al. "The early course of change in methadone maintenance." Addiction: 1998, 93(1), p. 41-49.
- 17 Strang J. et al. "Methadone treatment for opiate addiction: benefits in the first month." Addiction Research: 1997, 5 (1), p 71–76.
- 18 Zhang Z. et al. "Does retention matter? Treatment duration and improvement in drug use." Addiction: 2003, 98, p. 673-684.
- 19 Gossop M. et al. "Outcomes after methadone maintenance and methadone reduction treatments: two-year follow-up results from the National Treatment Outcome Research Study." *Drug and Alcohol Dependence*: 2001, 62, p. 255–264.
- 20 Simpson D.D. *et al.* "Program diversity and treatment retention rates in the Drug Abuse Treatment Outcome Study (DATOS)." *Psychology of Addictive Behaviors*: 1997, 11(4), p. 279–293.
- 21 Simpson D.D. *et al.* "Treatment retention and follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS)." *Psych. Addictive Beh.*: 1997, 11(4), p. 294–307.
- 22 Hubbard R.L. et al. "Overview of 1-year follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS)." *Psych. Addictive Beh.*: 1997, 11(4), p. 261–278.
- 23 Simpson D.D. *et al.* "Treatment retention and follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS)." *Psych. Addictive Beh.*: 1997, 11(4), p. 294–307.
- 24 Humphreys K. and Tucker J.A. "Toward more responsive and effective intervention systems for alcohol-related problems." *Addiction*: 2002 97, p. 126–140 (includes commentaries).
- 25 McLellan A.T. "Have we evaluated addiction treatment correctly? Implications from a chronic care perspective." *Addiction*: 2002, 97, p. 249–252.
- 26 Moos R.H. et al. "Long-term influence of duration and intensity of treatment on previously untreated individuals

- with alcohol use disorders." Addiction: 2003, 98, p. 325–337.
- 27 Zhang Z. et al. "Does retention matter? Treatment duration and improvement in drug use." Addiction: 2003, 98, p. 673-684.
- 28 De Weert-Van Oene G.H., *et al.* "Retention in substance dependence treatment: the relevance of in-treatment factors." Journal of Substance Abuse Treatment: 2001, 20, p. 253–261.
- 29 Simpson D.D. "Modeling treatment process and outcomes." Addiction: 2001, 96, p. 207-211.
- 30 Joe G.W. et al. "Relationship between counseling rapport and drug abuse treatment outcomes." Psychiatric Services: 2001, 52(9), p. 1223—1229.
- 31 Fiorentine R., et al. "Does increasing the opportunity for counseling increase the effectiveness of outpatient drug treatment?" American Journal of Drug and Alcohol Abuse: 1997, 23 (3), p. 369-382.
- 32 Fiorentine R., et al. "More is better: counseling participation and the effectiveness of outpatient drug treatment." *Journal of Substance Abuse Treatment*: 1996, 13 (4), p. 341–348.
- 33 Stark M.J. "Dropping out of substance abuse treatment. A clinically oriented review." *Clinical Psychology Review*: 1992, 12, p. 93–116.
- 34 Stark M.J. "Dropping out of substance abuse treatment. A clinically oriented review." *Clinical Psychology Review*: 1992, 12, p. 93–116.
- 35 Festinger D. et al. "From telephone to office Intake attendance as a function of appointment delay." Addictive Behaviors 27 (2002) 131 -137
- 36 Stark M.J. "Dropping out of substance abuse treatment. A clinically oriented review." *Clinical Psychology Review*: 1992, 12, p. 93–116.
- 37 Marlatt A. et al. "Help-seeking by substance abusers: the role of harm reduction and behavioral-economic approaches to facilitate treatment entry and retention" In: Onken L.S., et al, eds. Beyond the therapeutic alliance: keeping the drug-dependent individual in treatment. NIDA Research Monograph 165, 1997.
- 38 Higgins S.T. *et al.* "From the initial clinic contact to aftercare: a brief review of effective strategies for retaining cocaine abusers in treatment." In: Onken L.S. *et al, eds op cit*, p. 25–43.
- 39 Sia T.L. *et al.* "Treatment readiness training and probationers' evaluation of substance abuse treatment in a criminal justice setting." *Journal of Substance Abuse Treatment*: 2000, 19, p. 459–467.
- 40 Czuchry M., et al. "Drug abuse treatment in criminal justice settings: enhancing community engagement and helpfulness." American Journal of Drug and Alcohol Abuse: 2000, 26(4), p. 537–552.
- 41 De Leon G. et al. "Therapeutic communities. Enhancing retention in treatment using 'senior professor' staff." *Journal of Substance Abuse Treatment*: 2000, 19, p. 375–382.
- 42 Cartwright A. et al. "Is the interviewer's therapeutic commitment an important factor in determining whether alcoholic clients engage in treatment?" *Addiction Research*: 1996, 4(3), p. 215–230.
- 43 Stark M.J. "Dropping out of substance abuse treatment. A clinically oriented review." *Clinical Psychology Review*: 1992, 12, p. 93–116.
- 44 Milmoe S. et al. "The doctor's voice: postdictor of successful referral of alcohol patients." J. Abnorm. Psychol.: 167, 72, p. 78 84. Cited in: Woody G.E. et al. "Individual psychotherapy: other drugs." In: Galanter M., Kleber H.D., eds. Textbook of substance abuse treatment. 2nd edition. Washington: American Psychiatric Press, 1999, p. 343–351.
- 45 Moos R.H., *et al.* "Community residential program policies, services and treatment orientations influence patients' participation in treatment." *Journal of Substance Abuse*: 1997, 9, p. 171–187.
- 46 Hser Y-I et al. "Effects of program and patient characteristics on retention of drug treatment patients." Evaluation and Program Planning: 2001, 24, p. 331-341.
- 47 Timko C., et al. "Outcomes of the treatment climate in psychiatric and substance abuse programs." *Journal of Clinical Psychology*: 1998, 54(8), p. 1137–1150.
- 48 Broome K.M. *et al.* "Patient and program attributes related to treatment process indicators in DATOS." *Drug Alc. Dep.*: 1999, 57, p. 127–135.
- 49 Orwin R.G. et al. "Relationship between treatment components, client-level factors and positive treatment outcomes." J. of Psychopathology and Behavioral Assessment: 2000, 22(4), p. 383-397.
- 50 Magura S. *et al.* 'Pre and in-treatment predictors of retention in methadone treatment using survival analysis.' *Addiction*: 1998, 93, pp51-60.
- 51 Magura S., et al. "Pre- and in-treatment predictors of retention in methadone treatment using survival analysis." *Addiction*: 1998, 93(1), p. 51–60
- 52 Hser Y-I et al. "Matching clients' needs with drug treatment services." J. Subst. Abuse Treatment: 1999, 16(4), p. 299–305.

- 53 Fiorentine R. "Effective drug treatment: testing the distal needs hypothesis." *Journal of Substance Abuse Treatment*: 1998, 15(4), p. 281–289.
- 54 Friedmann P.D. et al. "Treatment and retention in outpatient drug abuse treatment programs." *J. Subst. Abuse Treatment*: 2001, 21, p. 97–103.
- 55 McLellan A.T. *et al.* "Problem-service 'matching' in addiction treatment: a prospective study in 4 programs." *Archives of General Psychiatry*: 1997, 54, p. 730–735.
- 56 McLellan T. *et al.* "Supplemental social services improve outcomes in public addiction treatment." *Addiction*: 1998, 93(10), p. 1489–1499.
- 57 Marsh J.C. *et al.* "Increasing access and providing social; services to improve drug abuse treatment for woment with children." *Addiction*: 2000, 95(8), p. 1237-1247.
- 58 McLellan T. *et al.* "Supplemental social services improve outcomes in public addiction treatment." *Addiction*: 1998, 93(10), p. 1489–1499.
- 59 McLellan A.T. *et al.* "Problem-service 'matching' in addiction treatment: a prospective study in 4 programs." *Archives of General Psychiatry*: 1997, 54, p. 730–735.
- 60 Orwin R.G. et al. "Relationship between treatment components, client-level factors and positive treatment outcomes." *J. of Psychopathology and Behavioral Assessment*: 2000, 22(4), p. 383-397.
- 61 Ward J., et al. "The use of methadone during maintenance treatment: pharmacology, dosage and treatment outcome." In: Ward J., Mattick R.P. Hall W., eds. Methadone maintenance treatment and other opioid replacement therapies. Harwood Academic Publishers, 1998, p. 205–238.
- 62 Robles E. et al. "Implementation of a clinic policy of client-regulated methadone dosing." *Journal of Substance Abuse Treatment*: 2001, 20, p. 225–230.
- 63 Goldstein A. et al. "Control of methadone dosage by patients." *Journal of the American Medical Association*: 1975 234, p. 734–737.
- 64 Havassy B. et al. "Self-regulation of dose in methadone maintenance with contingent privileges." *Addictive Behaviors*: 1979, 4, p. 31–38.
- 65 Havassy B. et al. "Allowing methadone clients control over dosage: A 48-week controlled trial." *Addictive Behaviors*: 1981, 6, p. 283–288.
- 66 Maddux J.F et al. "Patient self-regulated dose and optional counseling in methadone maintenance." American Journal of the Addictions: 1995, 4(1), p.18–32.
- 67 Resnick R.B. et al. "Patient self-adjustment of methadone maintenance dose." In: Harris L.S. ed. Problems of drug dependence. NIDA, 1981, p. 327–330.
- 68 Magura S., et al. "Program quality effects on patient outcomes during methadone maintenance: a study of 17 clinics." Substance Use and Misuse: 1999, 34(9), p. 1299–1324.
- 69 Ball J.C., et al. The effectiveness of methadone maintenance treatment: patients, programs, services and outcomes. New York: Springer Verlag, 1991.
- 70 Ward J., Mattick R.P. Hall W., eds. Methadone maintenance treatment and other opioid replacement therapies. Harwood Academic Publishers, 1998. See chapter 11.
- 71 Blaney T., et al. "Methadone maintenance: does dose determine differences in outcome?" *Journal of Substance Abuse Treatment*: 1999, 16(3), p. 221–228.
- 72 Joe G.W. et al. "Retention and patient engagement models for different treatment modalities in DATOS." Drug and Alcohol Dependence: 1999, 57,p. 113–125.
- 73 Fiorentine R. et al. "Client engagement in drug treatment." Journal of Substance Abuse Treatment: 1999, 17, p. 199–206.
- 74 Fiorentine R. et al. "Drug treatment effectiveness and client-counselor empathy: exploring the effects of gender and ethnic congruency." *Journal of Drug Issues*: 1999, 29(1), p. 59–74.
- 75 Bell D.C., et al. "Therapeutic connection and client progress in drug abuse treatment." J. Clin. Psych.: 1997, 53(3), p. 215–224.
- 76 Woody G.E. et al. "Individual psychotherpay: other drugs." In: Galanter M., Kleber H.D., eds. Textbook of substance abuse treatment. 2nd edition. Washington: American Psychiatric Press, 1999, p. 343–351
- 77 Fiorentine R. et al. "Drug treatment effectiveness and client-counselor empathy: exploring the effects of gender and ethnic congruency." *Journal of Drug Issues*: 1999, 29(1), p. 59–74.
- 78 Bell D.C., et al. "Therapeutic connection and client progress in drug abuse treatment." J. Clin. Psych.: 1997, 53(3), p. 215–224.
- 79 Simpson D.D. et al. "Client engagement and change during drug abuse treatment." Journal of Substance Abuse:

- 1995, 7, p. 117-134.
- 80 Joe G.W. et al. "Effectivenes of node-link mapping enhanced counseling for opiate addicts." J. Nervous and Mental Dis.: 1997, 185 (5), p. 306–313.
- 81 Simpson D.D. *et al.* "Integrative modeling of client engagement and outcomes during the first 6 months of methadone treatment." *Add. Beh.*: 1999, 24(5), p. 649–659.
- 82 Simpson D.D. et al. "Strategies for improving methadone treatment process and outcomes." *J. Drug Issues*: 1997, 27 (2), p. 239–260.
- 83 Pitre U. et al. "The role of node-link maps in enhancing counseling efficiency." J. Addictive Dis.: 1997, 16(3), p. 39–49.
- 84 Newburn D. et al. "Positive effects on life skills motivation and self-efficacy: node-link maps on a modified therapeutic community." *American J. Drug and Alcohol Abuse*: 1999, 25(3), p. 407–423.
- 85 Collier C.R. *et al.* "The use of node-link mapping in the chemical dependency treatment of adolescents." *J. Drug Ed.*: 2001, 31(3), p. 305–317.
- 86 Petry N.M. "Therapeutic alliance and psychiatric severity as predictors of completion of treatment for opioid dependence." *Psychiatric Services*: 1999, 50(2), p. 219-227.
- 87 De Weert-Van Oene G.H., et al. "Retention in substance dependence treatment: the relevance of in-treatment factors." *Journal of Substance Abuse Treatment*: 2001, 20, p. 253–261. 1582 6.4.
- 88 Barber J.P. "Therapeutic alliance as a predictor of outcome and retention in the National Institute on Drug Abuse Collaborative Cocaine Treatment Study." *Journal of Consulting and Clinical Psychology*: 2001, 69(1), p. 119-124.
- 89 Crits-Christoph P., et al. "Psychosocial treatments for cocaine dependence. National Institute on Drug Abuse Collaborative Cocaine Treatment Study." *Archives of General Psychiatry*: 1999, 56, p. 493–502.
- 90 Bisaga A. et al. "The prognostic significance of baseline cocaine use in the treatment of cocaine dependence." *Drug and Alcohol Dependence*: 2002, 66, p. S15.
- 91 Patkar A.A. et al. "Predicting treatment-outcome in cocaine dependence from admission urine screens and peripheral serotenergic measures." *Journal of Substance Abuse Treatment*: 2002, 23, p. 33–40.
- 92 Reiber C. et al. "Predicting treatment success at multiple time points in diverse populations of cocaine-dependent individuals." *Drug and Alcohol Dependence*: 2002, 68, p. 35–48.
- 93 Kampman K.M. *et al.* "Cocaine withdrawal and initial urine toxicology results predict treatment attrition in outpatient cocaine dependence treatment." *Psychology of Addictive Behaviors*: 2001, 15(1), p. 52–59.
- 94 Petry N.M. "Prize reinforcement contingency management for treating cocaine users: how low can we go, and with whom?" *Addiction*: 2004, 99, p. 349–360.