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Programme factors that influence completion of residential treatment

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Authors

Petra S. Meier, Department of Psychology, Manchester Metropolitan University, UK

David Best, National Addiction Centre, Institute of Psychiatry, Kings College London, UK

Correspondence to:

Petra Meier, email: p.meier@mmu.ac.uk

Department of Psychology

Manchester Metropolitan University

Hathersage Rd

Manchester M13 0JA

UK

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ABSTRACT

Aims: To predict retention in residential rehabilitation (RR) services, focusing on service provider factors.

Design: A national postal survey of RR services in England and Wales was carried out and information was obtained from 57 of 87 identified (65.5%) services.

Measurement: Service mangers were asked to complete a questionnaire asking about treatment philosophy, treatments provided, staff characteristics and staffing levels, as well as overall service size and funding. Services also provided information on the number of clients admitted per year and the number who had completed, dropped out and been asked to leave in the past year.

Findings: Completion rates varied widely, from 3% to 92%, with an average of 48%. Higher completion rates were associated with lower counsellor caseloads, fewer beds, single rooms, shorter scheduled treatment durations, higher fees per client, and provision of what could be termed a balanced treatment programme containing adequate amounts of individual counselling and programme-free time, and with only moderate demands for domestic duties. Programmes with more drug than alcohol users had lower completion rates, but the proportion of dual diagnosis or criminal justice referred clients did not appear to affect retention.

Conclusions: Completion rates varied as a function of a number of service factors that are amenable to manipulation. To successfully retain clients, programmes should not be too large and should have adequate levels of therapeutic staff and funding, a well-developed treatment schedule which is not too demanding for the client in terms of duties or overall time spent in structured activities, and which incorporates sufficient levels of individual counselling.

Key words: retention, drug treatment, service factors, service provision

BACKGROUND

One of the factors that have been most consistently linked to good treatment outcomes is retention (Gossop, Marsden, Stewart & Rolfe 1999; Gossop, Stewart, Browne & Marsden 2002; Simpson, Joe & Rowan-Szal 1997b; Siqueland et al. 2002). Preliminary evidence has recently emerged which suggests that UK community-based treatment services may vary widely with regard to their effectiveness in retaining clients (Millar, Donmall & Jones 2004), and findings of large differences in services' retention rates have also been reported from the US (Simpson, Joe, Broome, Hiller, Knight & Rowan-Szal 1997a). There is increasing political pressure on UK treatment services to improve their retention rates (Home Office 2002), but despite this, it appears that no clear guidance is available to practitioners as to how they can change their service provision to accomplish this difficult task. Previous research has primarily focused on client characteristics, many of which cannot be influenced by treatment providers (for a recent literature review of this topic see Meier, Barrowclough & Donmall 2005). Awareness of these factors may be useful if treatment spaces are limited and only those expected to do well can be admitted. However, when considering treatment changes that should be made to retain clients known to be at risk of dropping out, this kind of knowledge is of limited use. Therefore, if the aim is to improve retention and outcomes for all presenting clients rather than to select those most likely to succeed it is imperative to look specifically at predictors that can be influenced by treatment providers and commissioners.

Retention in UK RR programmes is variable, as evidenced by recent studies that reported 90-day retention rates ranging from 25% to 48% (Gossop et al. 1999; Keen, Oliver, Rowse & Mathers 2001; Meier 2004). This may not be surprising given the heterogeneity of programmes grouped under the RR heading, with programmes varying significantly in terms of therapeutic philosophy, size, planned treatment duration, staffing levels, and funding structure. Nonetheless, the role of service factors has not been adequately investigated in the UK, preventing adequate assessment of the influence of such factors on outcome measures including treatment retention and completion.

The aims of the current study are a) to determine to what extent completion, dropout and disciplinary discharge rates differ between RR programmes for drug users in England and b) to identify programme factors which explain such differences, paying special attention to both factors that might be influential early in treatment, when the risk of dropout is typically highest (De Leon & Schwartz 1984; Pena et al. 1999; Simpson et al. 1997b), and factors that are under the control of treatment providers or commissioners.

METHOD

Information from two data sources was used to address the research questions: the primary data source was a survey questionnaire designed for the purposes of this study. Basic data on services are also available from the National Treatment Agency's (NTA) online residential services directory (www.nta.nhs.uk) and this was used to augment the data collected in the survey.

Survey questionnaire

A 5-page questionnaire was designed to capture programme characteristics suspected to influence retention. Comments on an early draft were sought from the managers of a therapeutic community (TC) and a 12-step programme to check that the wording of questions was equally applicable to both philosophies. The following domains were covered:

Treatment completion: Most residential rehabilitation treatment providers in the UK now have computerised or manual systems in place which allow them to monitor basic treatment statistics such as admission and discharge dates, and were thus expected to be able to provide basic information about retention. In the survey, services were asked to provide the number of admissions, completions, dropouts and disciplinary discharges for the year 2004, or for the financial year 2003/04, depending on what information they could readily provide.

Programme variables: Services were asked to provide information about their treatment philosophy (12-step, 12-step based, TC, TC-based, eclectic/faith-based/other), planned duration of treatment in weeks, and number of beds.

Case mix variables: Information was sought on the proportion of admissions which fell in the categories primary drug users, primary alcohol users and users with both drug and alcohol problems; and the proportion of CJS-referred and of dual diagnosis (co-morbid substance misuse and diagnosed mental health problem) clients.

<u>Staffing</u>: Services provided information about the number of therapeutic staff, formal qualifications of therapeutic staff and proportion of ex-user staff.

<u>Treatment components:</u> Services were asked to describe how many minutes each week clients were involved in the following activities: counselling, group work, lectures/psycho-education, organised leisure activities, and domestic duties.

<u>Treatment environment</u>: Respondents were asked whether most rooms were single or shared, and for a judgment on the state of the building/accommodation.

Residential services directory

Information provided by services for the NTA's residential services directory (www.nta.nhs.uk) was used to maximise available data for survey responders. The following data was recorded: Total number of staff employed by the service, weekly charge for residential treatment, acceptance of criminal justice referrals and dual diagnosis clients.

Procedure

All residential rehabilitation services for drug users in England were eligible for inclusion. Services for alcohol users only were excluded, however, services treating a mixture of drug and alcohol users were included. Half-way houses and supported housing services were excluded because in such services only minimal therapeutic intervention is provided.

Residential rehabilitation programmes that met the inclusion criteria were sent information about the study, a copy of the survey questionnaire, guidance on completing the questionnaire, and a stamped addressed envelope in January 2005. They were asked to return the questionnaire within two weeks, and two waves of reminders were sent to non-responders after this deadline.

The following information from the NTA online residential services directory was recorded for survey non-responders: treatment duration, number of beds, treatment components, total number of staff and total number of counsellors, and acceptance of dual diagnosis and criminal justice referred clients. The weekly fee for residential treatment was recorded for all eligible services.

Sample

A total of 95 residential rehabilitation services for drug users in England were identified from the NTA residential services directory, a directory of treatment services (Drugscope 2003), and the author's own previous work (Meier, Donmall & Heller 2004). Eight services were later excluded they did not meet the inclusion criteria, leaving a final study sample of 87 services. Sixty-one responses were received; of these 57 provided retention figures and were included (overall response rate: 65.5%). No differences existed between responders and non-responders regarding the number of beds or overall number of staff, but therapeutic communities (TCs) were more likely to respond than 12-step programmes ($p<0.01$). Together, the 57 services admitted 4,434 clients in 2004, with an average of 82 admissions per service.

RESULTS

Service characteristics

Service characteristics: Of the respondents, 33% of services followed the 12-step philosophy and 51% the TC philosophy, with the remaining 16% of programmes describing their philosophy as faith-based, eclectic or psychotherapy-based. The planned treatment duration of the services ranged from 1 to 12 months, with an average of 6 months. Treatment durations varied significantly by service type ($F=5.776$, $p<0.005$). The shortest durations were observed for traditional 12-step programmes with a mean duration of 13 weeks, followed by modified 12-step programmes (18 weeks), eclectic programmes (21 weeks), and finally TCs and modified TCs (33 and 31 weeks).

Services had an average of 23 beds, with a mean number of admissions per year of 82, ranging from just 6 to 369. Services had an average of 17 members of staff, including therapeutic and non-therapeutic staff. Although services with more beds also had more staff overall ($r=0.56$, $p<0.001$), counsellors in larger services still had considerably higher caseloads ($r=0.41$, $p<0.005$). Detailed sample characteristics are provided in Table 1.

Most services reported that their buildings were either newly refurbished or in good condition. Despite guidelines for UK residential care homes specifying that rooms should not usually be shared, 56% of services had more shared than single rooms. The weekly fee services charged for rehabilitation treatment varied from as little as £215 to as much as £3640, but when excluding a handful of short-term privately run services, the average weekly fee for rehabilitation was £492.

Client mix: In terms of the client mix, on average, 45% of a service's clients were primary drug users, 31% were in treatment for both drug and alcohol use, and 22% were primary alcohol users (primary substance was unknown for the remaining 2%). The vast majority of programmes accepted criminal justice referrals and services had an average of 16% of criminal justice referred clients. The proportion of criminal justice referred clients was unrelated to the treatment philosophy of the service. Almost two-thirds of services said that they accepted clients with diagnosed mental health problems, however, the actual proportion of dual diagnosis clients was low (3%).

Counsellor characteristics and staffing: Programmes employed up to 17 counsellors, with a mean of 6.6 full-time equivalent posts. Most counsellors had some form of counselling qualification, most commonly counselling/addiction counselling certificates. However, on average, only 41% of the counsellors in a service had reached diploma level and just under a quarter were accredited counsellors, with higher proportions of diploma-level counsellors found in 12-step (65%) than in TCs (30%) or other programmes (18%, F=9.56, p<0.001). On average, 61% of the counsellors in a service were ex-users, in 12-step programmes 82% compared to 49% in TCs and eclectic programmes (F=3.13, p<0.10). Caseloads varied from just one client to 10 clients, with an average of 5.

(Insert Table 1 here)

Treatment programme: All but a few services provided a mixture of individual and group counselling, lectures, domestic duties and leisure time activities. However, services varied widely as to the intensity of the different components. Most services offered 2-3 hours of

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individual counselling per week, however, the range was considerable, from no individual counselling at all (in 5% to the services) to 20 hours per week. The average intensity of group counselling was 12 hours per week, ranging from 0 to 40 hours (7% of services offered no group counselling). Clients spent on average 6 hours a week in lectures or education, and were required to perform up to 30 hours of domestic duties per week, with a mean of 7 hours. The amount of domestic help that clients were required to provide heavily depended on the service's treatment philosophy, in 12-step services and eclectic services, clients were required to do less housekeeping (4½ and 5½ hours per week, respectively) than in TCs (10½ hours, F=10.79, p<0.0001). Overall, clients spent between 13 and 66 hours per week following organised activities, with an average of 35 hours.

Retention rates

The retention data for 2004 indicates that just under half (48.3%, range 2.9% to 91.9%) of clients completed all treatment as scheduled, 32.0% (range 0% to 92.6%) of clients dropped out, and 18.6% (range 0% to 54.6% were asked to leave by the treatment service. Retention rates varied widely between services.

Predictors of retention

Stepwise multiple linear regression was used to identify which combinations of variables best predict completion, dropout and disciplinary discharge rates. Predictors were included if the unadjusted univariate relationship was significant at a level of p<0.10, a conservative criterion used to ensure that potentially important predictors are not prematurely excluded. The stepwise inclusion criterion was set at p<0.10. The results of the univariate and multivariate analyses are shown in Table 2. Together, four variables explained 43% of the variance in programme completion (adjusted R^2=0.431). The number of beds, a proxy for service size, the requirement for clients to share rooms and the requirement to engage in domestic duties were associated with a reduced likelihood of treatment completion, whereas the provision of higher levels of individual counselling was associated with increased retention rates. Staffing and client mix variables, whilst significant in univariate analysis, were did not predict completion once other predictors were controlled for.

DISCUSSION

Just under half of the clients attending the RR services participating in the survey completed their treatment programmes in 2004, with around one in three dropping out of treatment before the intended completion date and around one in five being required to leave by the services. It is of some concern that for residential rehabilitation, an expensive form of treatment provision and one that involves a significant commitment from the user, that less than half the clients who have taken this step are able to complete the process. What is encouraging, however, is that the likelihood of treatment completion was not arbitrary, with the study identifying clear predictors of completing RR treatment, to the extent that just under half of the variance in likelihood of completion is accounted for by the service factors measured in the study.

Although this analysis included variables relating to the profile of clients (the proportions of criminal-justice referred clients, clients with mental health problems, and of primary problem drinkers), as well as staff characteristics, neither of these variable groupings were retained in the final statistical model. In contrast, treatment completion rates in the RR services were determined by three factors relating to service structure, and one relating to the therapeutic programme.

The results presented here would suggest that services' that respect the privacy of clients, that provide higher levels of staff to each client and that offer basic domestic support (rather than relying on the clients themselves to carry out such duties) are positive features of residential provision that are likely to result in higher levels of treatment retention. Indeed, the results would suggest that the total programme intensity should not be burdensome to clients, as the most intensive programmes overall had the lowest overall treatment completion rates. The latter finding was significant at the univariate level but was not retained in the final multivariate analysis. Nonetheless, the findings would suggest that better client support and privacy, as well as lower total demands on the clients, are most likely to be associated with higher levels of treatment completion.

In contrast, individual counselling was the only aspect of the clients' timetable that was positively associated with retention in the multivariate analysis. In contrast to group counselling, leisure activities, housework and total programme time, the more time that was spent on individual counselling the better was the treatment retention, and this finding was independent of the treatment philosophy of the service. Our previous work suggests that this relationship between individual counselling and retention is likely to be modified by the quality of the therapeutic relationship (Meier, Donmall, McElduff, Barrowclough & Heller in submission).

Finally, services with higher numbers of beds also had lower treatment completion rates. This may suggest that smaller services were able to provide a more personalised service, but without further evidence this conclusion remains speculative. In conclusion, however, it was smaller services with more individual rooms, less housework and more individual counselling that reported the highest levels of treatment completion among the clients, irrespective of the profile of the staff or the proportion of clients from criminal justice referrers or with co-morbid mental health problems. These are all factors that providers can change and that commissioners can consider in their decision-making about funding clients to attend RR services. However, the key issue for commissioners may be to assess the variability in completion and discharge rates, and to consider this in decision-making about utilising particular services.

There are some methodological limitations which suggest that results be interpreted with some caution. Despite a good response rate of 66%, not all of the services contacted chose to participate, and no attempts were made to 'validate' the self-reported completion rates or service delivery components of those services who did respond. Similarly, service managers were asked to report either for the calendar year 2004 or the financial year 2004/05, depending on what information they had available, meaning that the periods covered are not completely consistent across services. In terms of the information collected, only limited information was gathered about both the staff and client profiles, so the influence of these factors may well have been under-estimated, as may aspects of treatment quality that were beyond the scope of a questionnaire of this sort. Finally, the total sample size is relatively small and it cannot necessarily be generalised to other forms of treatment provision.

Nonetheless, the study is important in three respects. The first is in focusing on treatment completion as an outcome indicator for residential treatment services, and in exhibiting marked variability across services in the proportion of clients retained, self-discharging and discharged for disciplinary reasons over the course of a one-year window. The second is that this variability is strongly linked to aspects of treatment provision that are amenable to change, in particular predictors related to programme intensity and levels of individual counselling and domestic work required. Similarly, the results provide a strong mandate for smaller service size and for respecting the privacy of clients. However, as shown with regards to community prescribing services (Miller et al. 2004), the key finding is that treatment retention and completion rates should be seen as key areas of service performance and not exclusively as immutable sequelae of the characteristics of clients utilising the services.

Conclusion and outlook

Residential rehabilitation services vary in the outcomes they achieve, in terms of successful treatment completions, rates of self-discharge and rates of disciplinary discharge. These variations are partly influenced by client profile and therapeutic processes, but are also a result of service factors that are open to manipulation. The findings presented here indicate that outcomes are a result of dynamic processes between clients and rehabilitation services,

but that certain key aspects of organisational structure and resources are predictive of treatment completion. These findings need to be tested in other settings and using different methods, but would provide support for the increasing emphasis on service factors as key determinants of drug treatment outcomes.

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Table 1. Study predictor variables: Descriptive statistics

	No of services	%	mean	SD	Range
Treatment philosophy					
12-step	8	14.0			
12-step based	11	19.3			
TC	18	31.6			
TC based	11	19.3			
Eclectic/faith/other	9	15.8			
Planned treatment duration (weeks)			25.2	13.9	4-52
Weekly fee for rehabilitation (£)			631.6	675.0	215-3640
Treatments provided					
Counselling	54	94.7%			
Group counselling:	53	93.0%			
Lectures/psychoeducation	56	98.2%			
Domestic duties	54	94.7%			
Activities	52	91.2%			
Detoxification	21	36.8%			
Treatment intensity (hrs per week)					
Counselling			2.0	2.1	0-12
Group counselling:			11.0	7.5	0-33
Lectures/psychoeducation			6.1	4.6	0-20
Domestic duties			7.9	6.7	0-30
Activities			5.0	4.1	0-20
Total hours programme per week			32.4	11.5	13-66
Counselling staff					
Number of counsellors/key workers			6.6	3.3	0-17
% of counsellors who …					
have a certificate in counselling or addiction studies			64.8	34.3	0-100
have a diploma in counselling or addiction studies			40.5	35.4	0-100
are accredited counsellors			23.4	33.7	0-100
are ex-user counsellors			60.5	46.7	0-100
Caseload (typical number of clients per counsellor)			4.7	2.1	1-10
Treatment environment					
Quality of accommodation					
Newly refurbished	14	25.5%			
Good condition	29	52.7%			
Minor updating needed	8	14.5%			
Major updating needed	4	7.3%			
Room sharing					
Mostly shared rooms	32	56.1			
Mostly single rooms	25	43.9			
Size of service					
Number of beds (2004)			23.0	13.2	6-65
Number of admissions per year			82.1	82.9	6-369
Total number of staff including non-therapeutic staff			16.8	11.5	3-57
Case mix in 2003/4 or 2004 (at admission)					
Number of services with…					
…more drug than alcohol users	32	59.3%			
…more alcohol than drug users	13	24.1%			
…the same proportion of drug and alcohol users	9	16.7%			
Criminal justice referrals accepted	52	94.5%			
% CJS clients (DTTO & Tag only)			16.1	18.9	0-80
Dual diagnosis clients accepted	30	54.5%			
% dual diagnosis clients			3.3	5.6	0-25

Table 2. Predictors of completion: Univariate and multivariate relationships

	Univariate regression			Stepwise regression[a]		multiple
	B	SE	p	B	SE	p
Service characteristics						
Treatment philosophy	-1.510	1.809	0.408			
Treatment duration	-0.460	0.205	0.030			n.s.
Number of beds	-0.532	0.198	0.010	-0.428	0.140	0.004
Number of admissions per year	0.011	0.034	0.739			
Weekly charge[b]	0.010	0.004	0.019			
Room sharing	-14.966	5.236	0.006	-9.522	4.808	0.055
Quality of accommodation	-0.987	3.317	0.767			
Programme elements						
Individual counselling	8.822	3.545	0.016	7.863	2.960	0.011
Group counselling	-1.995	3.558	0.578			
Lectures and psychoeducation	-3.205	3.494	0.363			
Housekeeping	-10.250	3.170	0.002	-10.147	2.896	0.001
Leisure activities	-5.455	3.589	0.135			
Total programme time	-0.591	0.228	0.012			n.s.
Staffing						
Total number of staff	0.268	0.263	0.314			
Caseload	-3.148	1.348	0.024			n.s.
Number of counsellors	-1.981	0.809	0.018			n.s.
% of counsellors with certificate	14.304	8.561	0.102			
% of counsellors with diploma	5.263	8.582	0.543			
% of accredited counsellors	0.678	9.000	0.940			
% of ex-user counsellors	-2.463	6.709	0.715			
Case mix						
More drug than alcohol users	-13.567	5.988	0.028			n.s.
% of CJS referred clients	-0.306	0.162	0.065			n.s.
% of dual diagnosis clients	-0.323	0.477	0.501			

Notes. Multivariate model: R=0.696, adjusted R^2=0.431, F=10.162, p<0.001
[a] stepwise inclusion criterion p<0.10, [b] "weekly fee for rehabilitation" was not entered into the multivariate model because of high levels of missing data.