

# Therapeutic community treatment of personality disorder: service use and mortality over 3 years' follow-up\*

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**Background** A number of studies have demonstrated reductions in the utilisation of psychiatric services, especially acute in-patient admissions, following therapeutic community treatment of personality disorder. These studies have, however, been of limited duration (1 year) and follow-up has not always been complete.

**Aims** To identify hospital admissions before and after therapeutic community treatment of personality disorder.

**Method** A naturalistic clinical cohort of patients admitted between January 1993 and December 1995 was followed up for 3 years. All subjects were traced to their current consultant psychiatrist, general practitioner or death.

**Results** All patients were traced at 3-year follow-up. The significant reduction in in-patient admissions seen in the first year was maintained over 3 years. Those with the poorest outcomes, suicide, accidental death or prolonged admission were all in the quartile with the shortest admissions (under 42 days) to the therapeutic community.

**Conclusions** Previously reported reductions in psychiatric admissions following therapeutic community treatment of personality disorder are maintained over 3 years.

**Declaration of interest** None.

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There has been renewed interest in the therapeutic community treatment of personality disorder in recent years. This interest has included a Systematic International Review of Therapeutic Community Effectiveness (Lees *et al*, 1999) and the funding of two new therapeutic communities, based on the Henderson model, in Birmingham and Manchester, UK. The systematic review identified over 8000 papers in the world therapeutic community literature, including: 10 randomised controlled trials; 10 cross-institutional studies; and 32 studies using some kind of control. A meta-analysis of 29 studies with clear outcome criteria and control groups gave 'very strong support to the effectiveness of therapeutic community treatment'.

In addition to outcome literature, there has been an increasing interest in the economic benefits of psychotherapies, including therapeutic community treatment. An international review of economic analyses of psychotherapy (Gabbard *et al*, 1997) found 18 controlled studies of psychotherapy with cost or comparable data. Of these, 80% of randomised and 100% of controlled studies suggested that psychotherapy reduced costs. Much of the impact accrued from reductions in in-patient treatment. Papers included in this review examined a wide range of psychotherapeutic treatments for a wide range of psychiatric conditions.

## METHOD

A consecutive series of admissions (52) to Francis Dixon Lodge from January 1993 to December 1995 were entered into the study. Francis Dixon Lodge is an 18-bedded in-patient therapeutic community in Leicester, UK, run on democratic analytic lines. All patients are voluntary admissions, usually with borderline or emotionally unstable personality disorders and extensive histories of self-harm. Treatment

takes place in a large group setting with no individual and very little small-group therapy (Campling, 1999). Information was collected from case notes and referral letters about psychiatric and demographic variables. Clinical diagnoses were made at the patients' initial review (usually 3 weeks after admission), by the treating consultant using ICD-10 criteria. As the study set out to follow up a naturalistic clinical sample, no research measures of personality disorder were used. As Francis Dixon Lodge specialises in the treatment of personality disorder, clinical diagnoses were likely to be more reliable than in general clinical practice or in self-report assessments of personality. Data on service utilisation were gathered from the Patient Administration System (Leicestershire only), clinical records and referring consultants for 3 years before admission. Follow-up began from the date of discharge from the index admission and continued for 3 years. For local patients, a wide range of information was collected, including: in-patient, day-patient, out-patient and community psychiatric contacts; general medical and surgical attendances; and accident and emergency department visits. For out-of-district patients, only data on in-patient admissions were collected from either consultant psychiatrists or general practitioners. Our experience has been that whereas in-patient admissions are usually reliably recorded in discharge summaries, other service utilisation, such as community psychiatric nurse contacts and day hospital attendances, are inadequately recorded and are held in multiple records separate from the core medical records.

## RESULTS

Admissions to Francis Dixon Lodge had a mean age of 27.2 (range 17–43); 58% were female. At admission 75% had a history of overdose and 67% of self-mutilation. In addition to a primary diagnosis of personality disorder (87.5% ICD-10 emotionally unstable), 40% met criteria for dependence/harmful use of drink and/or drugs and 25% for eating disorders. The average length of first admissions to Francis Dixon Lodge was 223 days (range 5–737); 7 patients had second admissions and 2 of these a third admission. It was possible to trace all patients at 3-year follow-up, to either their current general practitioner, consultant psychiatrist or death.

The mean acute in-patient-occupied bed-days for each of the 3 years preceding and following admission to Francis Dixon Lodge are given for the local, out-of-district and total cohort in Table 1. Acute bed occupancy was lower in each year of follow-up than in the year before admission for the whole group and for the local patients ( $P$  between  $<0.05$  and  $<0.001$ , Wilcoxon signed ranks test). Occupancy over the 3 years after treatment was lower than for the 3 years before treatment for the out-of-district patients and for the whole sample. The difference in the year before treatment and the first ( $P=0.09$ ) and third years ( $P=0.07$ ) after treatment approached significance for the small out-of-district group.

During the period of follow-up there were two deaths: one suicide and one from natural causes. Shortly after the 3-year follow-up there were a further two deaths: one accidental and the other suicide.

## DISCUSSION

### Previous studies

In the UK three groups have studied the potential economic benefits of therapeutic community treatment for personality

disorder: Chiesa *et al* (1996) from the Cassel Hospital, London; Davies *et al* (1999) from Francis Dixon Lodge; and Dolan *et al* (1996) from the Henderson Hospital, London. This research was stimulated by problems in financing therapeutic communities in the UK after the National Health Service reforms of the early 1990s (Dolan & Norton, 1991). All the UK studies were uncontrolled and used a cost-offset model. This involved measuring resources used by patients, most commonly psychiatric services, for the year before and after treatment, calculating costs and offsetting the difference against treatment costs. All of the studies found a reduction in costs for the year after treatment in comparison with the year before. A variety of costs were examined in different studies, including: in-patient, day-patient and out-patient psychiatric treatment; costs of imprisonment; and general medical and surgical costs. For all studies the major element in costs was in-patient treatment.

Sample sizes for all the studies were small: Henderson 24, Cassel 26 and Francis Dixon Lodge 52. Follow-up was limited to 1 year. For the Henderson sample there was a drop-out rate of 17%. For the Cassel study the pre- and post-admission samples differed, with a 50% drop-out rate in the

post-admission sample. Both the Cassel and Henderson Hospitals had large catchment areas, predominantly in Greater London but with referrals coming from many parts of the country. In the Francis Dixon Lodge sample, 80% were from the local district (population 900 000) and 20% from other districts. Diagnoses, when made, were predominantly of DSM-III-R borderline (Henderson 74%) or ICD-10 emotionally unstable (Francis Dixon Lodge 87%) personality disorder.

All the studies demonstrated a reduction in the utilisation of in-patient psychiatric services for the year after admission compared with the year before (Table 2). For Francis Dixon Lodge the in-patient usage of the local and out-of-district groups is displayed separately because the pre-admission in-patient usage of these groups was significantly different (Davies *et al*, 1999). We have earlier argued that this might be due to a filtering effect caused by the ease of making referrals for local patients and the difficulties (e.g. obtaining funding) for the out-of-district patients. This easy access might result in local patients receiving treatment earlier and avoiding prolonged admissions, whereas the out-of-district group's acute bed usage is similar to that reported by the Henderson

**Table 1** Mean (s.d.) of acute bed occupancy for 3 years before and 3 years after treatment at Francis Dixon Lodge for local, out-of-district and all patients

Acute bed occupancy, days	Local patients (n=40)	Out-of-district patients (n=12)	All patients (n=52)
Total for 3 years pre-admission	56.8 (100.4)	168.3 (183.9) <sup>3</sup>	82.5 (131.4) <sup>3</sup>
3 years pre-admission	3.4 (18.8)	44.1 (96.2)	12.8 (50.7)
2 years pre-admission	17.9 (65.7)	50.6 (86.3)	25.4 (71.4)
1 year pre-admission	35.5 (51.9) <sup>1,2</sup>	73.7 (112.1)	44.3 (70.9) <sup>4,5,6</sup>
1 year post-admission	13.1 (24.5) <sup>1</sup>	7.2 (12.1)	11.7 (22.3) <sup>4</sup>
2 years post-admission	10.9 (20.6) <sup>2</sup>	37.4 (58.9)	16.7 (34.0) <sup>5</sup>
3 years post-admission	7.5 (19.4) <sup>2</sup>	9.3 (14.7)	7.9 (18.4) <sup>6</sup>
Total for 3 years post-admission	31.1 (46)	54.5 (74.2) <sup>3</sup>	36.2 (53.4) <sup>3</sup>

1. 1 year pre- v. 1 year post-admission,  $P < 0.01$ .
2. 1 year pre- v. 2 and 3 years post-admission,  $P < 0.005$ .
3. Total for 3 years pre- v. total for 3 years post-admission,  $P < 0.05$ .
4. 1 year pre- v. 1 year post-admission,  $P < 0.005$ .
5. 1 year pre- v. 2 years post-admission,  $P < 0.01$ .
6. 1 year pre- v. 3 years post-admission,  $P < 0.001$ .

**Table 2** Acute bed occupancy for the years before and after admission to three UK therapeutic communities and sample size

Acute bed occupancy	FDL, local patients	FDL, out-of-district patients	Henderson, all patients	Cassel, all patients
Mean acute occupancy (days) 1 year pre-admission	35.5	74	71	31
Mean acute occupancy (days) 1 year post-admission	13.1	7.2	3	0.2
Sample size	40	12	24	26

FDL, Francis Dixon Lodge.

study. The initial papers all argued that therapeutic community treatment was self-financing over a period of 2 to 4 years, depending on cost base and service-items offset.

There are a number of criticisms of the studies (Davies, 1999). They were uncontrolled; measurement of resource usually relied on patient self-report; the resources studied did not provide a full picture (for example, they excluded taxation and social security payments, general practice contacts, etc.); follow-up was incomplete and limited to 1 year. That studies were uncontrolled is unsurprising, since the units involved struggled at times to attract patients and were often referred to as a last resort in the absence of other services offering any specialist treatment. The use of patient self-report and of information from general practitioners limited both the proportions followed up and the range of variables that could be studied. Following up patients for only 1 year after admission may have resulted in an unduly optimistic view of their outcomes resulting from a 'ceiling-floor' effect. The 'ceiling' would have been an unusually high service usage in the year before referral, possibly precipitating referral; the 'floor' would have been low usage in the year after discharge, not maintained over time. The current study was designed to achieve more complete and longer follow-up, at the expense of the range of variables studied.

We can see in Table 1 that the reduction in acute occupancy, seen in the first year after therapeutic community treatment in all previous studies, was maintained over time. For the local group, acute bed usage declined in each year after therapeutic community treatment. For the out-of-district group, usage was constant in years 1 and 3 and was considerably less than the peak in the year before admission. An increase in year 2 was predominantly due to one patient who had a short admission at Francis Dixon Lodge (39 days). In terms of the years before admission, the local group had shorter mean admissions, increasing in length year on year. The out-of-district group had a mean occupancy in every year higher than the local group. Usage was substantial in every year before admission and peaked in the year immediately before admission. A small 'ceiling' effect in the year before admission seems likely but there does not seem to have been a 'floor' effect. Gains in reducing acute in-patient admissions seem to be

#### CLINICAL IMPLICATIONS

- The maintenance, over 3 years, of the reductions in in-patient admission further supports the effectiveness and cost-effectiveness of therapeutic community treatment of personality disorder.
- The association between short admissions to the therapeutic community and poor outcome suggests a high-risk subgroup in an already high-risk population.

#### LIMITATIONS

- Although reporting a complete follow-up of all patients admitted to the unit over a 3-year period, the sample size (52) is small.
- Outcomes are limited to survival and utilisation of acute in-patient admissions.

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sustained, at least to 3 years, although the cost-offset benefits are reduced owing to the peak in the year before admission.

All four patients with the poorest outcomes, i.e. the three suicides or accidental deaths and the prolonged admission in the second year, were in the quartile with the shortest admission to Francis Dixon Lodge (under 42 days), implying that they engaged poorly with treatment. Previous follow-up studies have reported a mortality rate from suicide of 8.5% among patients with borderline personality disorder followed up over 16 years (Stone, 1993). The 6% mortality from suicide and accidental death at just over 3 years in this study (23% of the shortest admission quartile) is very much in line with these figures.

The similarities in primary diagnosis and service utilisation between the Henderson sample and the Francis Dixon Lodge out-of-district group suggest that our results may be generalisable to the Henderson Hospital, where a similar treatment model is used.

The completeness and length of follow-up in this study provides further evidence of the efficacy of therapeutic community treatment for personality disorder, at least in terms of reductions in acute in-patient occupancy. This is likely to indicate benefits for the patient, although some of

the effects may be due to changes in psychiatric practice over the time of the study. Acute in-patient admissions in this group are usually a containing response to crises rather than of intrinsic therapeutic value (Norton & Hinshelwood, 1996). Although not matching the effects reported in previous studies, these findings support the argument that therapeutic community treatment is self-funding in the medium term. For those who are admitted but fail to engage and leave within a few weeks the outcome is very poor, with a mortality of 23% at just over 3 years.

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