Cost-offset following specialist treatment of severe personality disorders

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Service usage of 24 patients with a personality disorder was established for one year pre-treatment and one year post-treatment via a prospective survey of the patients, their original referrer and their general practitioner. The average annual cost of psychiatric and prison services (calculated from extra-contractual referrals (ECR) tariffs and Home Office data) was £13 966 pre-treatment compared to £1308 post-treatment, representing a cost-offset of £12 658 per patient per year. The average cost of the specialist admission was £25 641. Thus the cost to the Nation for treating these personality disordered patients in a tertiary treatment resource would be recouped within two years and represent a saving thereafter.

In some areas of psychotherapy there remains a paucity of adequate research into treatment outcome (Holmes, 1994; Marks, 1994). However, research evidence demonstrates good outcome of therapeutic community treatment for personality disordered patients in terms of psychiatric, psychological and behavioural changes (Dolan & Coid, 1993). Indeed, the recent joint Department of Health/Home Office Committee on Services for Mentally Disordered Offenders (Reed, 1994) acknowledged that studies of therapeutic communities showed the most promising results of any form of treatment for psychopathic disorder (p. 16) and recommended that more such units be provided (p. 43).

In light of this it is surprising that the scepticism regarding the treatability of personality disordered patients remains and that specialist psychotherapeutic treatments are often regarded as an expensive luxury (Marks, 1994). In the climate of cost-awareness which now dominates the National Health Service (NHS), the onus is clearly on those services which can effect lasting improvement in their patients' psychological condition (i.e. beyond the period of actual treatment), to demonstrate the fact and to evaluate such treatment in financial terms.

Patients suffering with personality disorder place a high demand on health, as well as social and criminal justice, services which tend to be 'sucked in' in a reactive and unproductive way (Perry *et al*, 1987). One reason is that such patients typically fail to engage in or derive benefit from therapy and the severity of the behavioural (often antisocial) component of their disorder means they may not be adequately and safely treated in out-patient settings, or even day-hospital facilities which do not provide continuous support and/or supervision. Many have long histories of repeated contacts with psychiatric, social, forensic, penal and probation services which, because they represent incomplete or inadequate treatments, do not confer lasting benefit; indeed many patients with personality disorders learn new aberrant coping strategies in such settings, including inappropriate dependence on professional carers.

Their antisocial and destructive behaviour often leads them to be seen as less deserving of health care service provision. This view may be especially prevalent when budgets are limited and the use of resources has to be closely monitored and rationalised. But refusing to fund treatment for such patients is a false economy, even if viewed solely in financial terms, since spontaneous remission of severe personality disorders is uncommon and untreated a patient will continue to remain a burden to professionals. In spite of this some purchasing Health Authorities, in apparent ignorance of the existing high costs of treating this group of patients, do not believe that additional financial outlay (in the form of expert, tertiary level, in-patient resources) is cost-beneficial. This may be because the actual financial costs of the service usage of personality disordered people have rarely been quantified. However, in an earlier study (Menzies *et al*, 1993) we showed that a single cohort of 29 personality disordered patients admitted to Henderson Hospital service used a total of £423 115 worth of psychiatric and prison services in the one year prior to their admission. We extrapolated from earlier descriptive research data which showed a 40% reduction in service usage post-treatment and suggested that the initial cost of specialist treatment would be outweighed by the projected cost offset from this reduction over the ensuing four years.

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Subsequently, we have had the opportunity to follow that same cohort of patients for one year following their discharge from treatment and have been able to calculate the actual service costs.

The study

The sample in the initial study was 29 consecutive admissions to Henderson Hospital (which has 29 beds) in May 1992. Data on mental health and forensic service usage in the one year prior to their admission to Henderson Hospital were collected retrospectively from case notes and survey questionnaires (Menzies *et al*, 1993).

One year after discharge from treatment a brief questionnaire was sent to the 29 patients their original referrers and their current general practitioners (GPs), asking for details of service usage since leaving Henderson Hospital. Information was returned from at least one professional source for 24 patients (73%) who formed the follow-up sample. Data came from the referrer only in ten cases (42%), the GP only in seven cases (29%) and from both professionals in seven cases (29%). In seven cases (29%) service usage data were also supplied by the patient. There was no difference in the figures for service usage when the source of information was the referrer, the GP or both, however, two patients gave information about receiving private counselling which was not recorded by their referrer or GP.

Twenty-three of the 24 subjects had completed the personality diagnostic questionnaire (PDQ-R; Hyler & Reider, 1987) on referral to Henderson Hospital. This is a self-report assessment of DSM–III–R personality disorder and thus susceptible to over-diagnosis. However, subjects showed multiple morbidity and met a mean of 6.04 (s.d.=2.25) PDQ-R personality disorder criteria each. The most prevalent PDQ-R diagnosis was borderline personality disorder in 74% of subjects.

Costs of psychiatric in-patient, out-patient and day-patient services were calculated from extra-contractual referrals (ECR) tariffs provided by the four Thames Regional Health Authorities. Initial costs were calculated using 1992/93 tariffs and follow-up costs using 1993/94 tariffs.

In-patient general psychiatry tariffs

The average daily tariff for a general acute psychiatric in-patient bed across the Thames Regions was £153.20 for 1992/3 and £179 in 1993/4. (The daily bed tariff for Henderson Hospital was reduced from £111 to £110 in the same period.) The average daily bed cost of the Close Supervision Units in 1992/3 was £173.

Out-patient general psychiatry tariffs

Two calculations of out-patient costs were made. If a patient reported only 'having seen a psychiatrist' we judged this, conservatively, to mean having been assessed and offering one appointment. The average cost of such treatment was £179 in 1992/3 and £244 in 1973/4. If a patient reported having had 'individual therapy' of any type, but did not specify for how many sessions, we costed this using the figures for an assessment plus eight appointments. The average figure for a treatment package calculated in this was was £586 in 1992/33 and £790 in 1993/4. Day hospital costs were £71 and £70 per day respectively.

Prison costs

Prison costs were taken from the Home Office figures for 1991 (HMSO, 1991). The average cost of a week in a British adult prison was £386 (range £238–744).

Findings

Table 1 presents a summary of mean psychiatric and prison service costs incurred by the 24 patients in the year prior to their admission. Costs in the year after admission are shown in Table 2.

In-patient costs

In the year prior to treatment 17 subjects (81%) had been in-patients (for a total of 1568 days) compared with three (12.5%) in the year following treatment (for a total of 73 days). One of these patients was readmitted to Henderson Hospital. Two patients (8%) had also been in Close Supervision Units for a total of 140 days before admission; however, none of the 24 subjects had been held in a secure unit in the year following treatment. Thus, the cumulative annual in-patient costs pre-treatment were £264 438 compared with £19 462 post-treatment.

Out-patient costs

Six (25%) patients were reported as having had an out-patient assessment in the year before admission and two afterwards (8%). Twelve (50%) patients had out-patient treatment in the year before admission and the same number had out-patient treatment afterwards. Three residents (12.5%) had attended a day hospital for a total of 404 days before treatment and one (4.1%) had attended for 28 days at follow-up. The cumulative annual out-patient costs pre-treatment were £36 790 compared with £11 928 post-treatment.

Prison costs

Four (17%) residents had been in custody in the previous year for a total of 88 weeks at a cost of £33 968. None of the 24 patients were reported as being in custody in the year following treatment.

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Table 1. Psychiatric and penal service usage in the one-year prior to admission to Henderson Hospital: 24 patients at 1992/3 tariffs

Category	Units	Patients *n*	Units *n*	Unit mean £	Total cost £
In-patients beds	Days	17	1568	153.20	240 218
Secure psychiatric beds	Days	2	140	173	24 220
Total in-patient					**264 438**
Out-patient assessments	Assessments	6	6	179	1074
Out-patient therapy	Episodes	12	12	586	7032
Day Hospital	Days	3	404	71	28 684
Total out-patient					**36 790**
Prison	Week	4	88	386	**33 968**
Total costs					**335 196**
Cost per patient					**13 966**

Table 2. Psychiatric and penal service usage in the one-year following admission to Henderson hospital: 24 patients at 1993/4 tariffs

Category	Units	Patients *n*	Units *n*	Unit mean £	Total cost £
In-patient beds	Days	3	73	179	13 962
Henderson hospital	Days	1	50	110	5500
Total in-patient					**19 462**
Out-patient assessments	Assessments	2	2	244	488
Out-patient therapy	Episodes	12	12	790	9480
Day hospital	Days	1	28	70	1960
Total out-patient					**11 928**
Total costs					**31 390**
Cost per patient					**1308**

Total cost offset

Overall the total annual costs of prison and psychiatric service usage by these 24 patients was reduced from £335 196 (£13 966 per person) in the year before treatment to £31 390 (£1308 per person) in the year following treatment. This represented a total cost-offset of £303 806 which is an average cost-offset of £12 658 per patient.

Length of stay and cost of Henderson Hospital treatment

The 24 residents were in treatment at Henderson Hospital for an average of 231 days (range = 1–365). The Henderson Hospital bed tariff at that time was £111 per day, thus the average treatment episode of Henderson Hospital for this cohort cost £25 641.

Comment

In accord with research on personality disordered patients in the USA (Perry *et al*, 1987), the 24 patients in this study had used a considerable amount of health and prison services in the year before admission at Henderson Hospital, at an estimated mean cost per patient of £13 966 (a total annual health care cost pre-treatment of £335 196). Overall there was a major reduction in service usage for the 24 patients following specialist in-patient treatment, to £1308 per patient, which represented an average cost-offset of £12 658. If this reduction in service usage is

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maintained then the initial cost of the admission to Henderson Hospital (£25 641) would be recouped within just over two years and could be construed as a financial saving (to the Nation) thereafter. However, this saving may be no consolation to the individual purchasers given the current funding system. Any purchaser financially supporting a referral to Henderson Hospital (or another similarly funded tertiary service) will not 'save' money from their own budget, even when treatment is successful, since the cost of the existing local purchaser–provider contract will not be diminished because of what amounts to an additional extracontractual specialist referral. However, appropriate and successful tertiary treatment may at least obviate the need for a further call on the ECR budget in the following year. Supra-regional funding of tertiary level treatment centres, such as Henderson Hospital, would save those 'unfortunate' purchasers, who have patients with such special needs from the 'penalty' of supporting their tertiary referral or ECR. Such a funding mechanism might remove disincentives to refer, since it seems all too common that financial considerations trump clinical need (Dolan *et al*, 1994).

This study assesses costs using average figures derived from data supplied by the four Thames Regional Health Authorities which provide only a rough guide to national charges, although 75% of Henderson Hospital patients come from those four regions. The use of retrospective case note information together with patients' and referrers' self-reports (for the first stage) and survey data from patient, referrer and GP (for the second stage) may have led to inaccuracies. In only 29% of cases was follow-up information verified by two professionals. However, the absence of any national (or even regional) system to identify hospital admissions of individuals makes cross checking for missing data impossible. The health care costs presented will be an underestimate of true costs since treatment via a GP or casualty department was not included. However, the under-representation of service use may equally influence the pre-treatment and follow-up figures, hence both will be underestimates of total costs involved that year. It is also possible that the year prior to admission to any tertiary treatment centre is not typical, the decision to refer a patient may reflect a worsening of their condition or a perception of an inappropriately high demand on local (secondary) services. As it cannot be simply assumed that each year will see the same level of demand on such services, further long-term research is required. This study measured only the health and penal service cost offset and did not attempt to measure cost–benefit which would have required a much fuller and more detailed financial profile, including past and future employment and tax payment status of patients.

We were unable to trace five (17%) of our original sample of 29 patients. It is possible that those five patients had a worse outcome in terms of service usage than those we were able to follow up. If the patient returned to the original referring catchment area, it would be likely that a referrer or GP would be interested in communicating a poor outcome of tertiary service input when requested to do so! However, some patients move on to new territory after treatment for a variety of reasons, including the maintenance of a peripatetic lifestyle. In such instances referrers and GPs may have replied because they had lost contact and possibly felt relief that their patient was no longer in touch. Other 'poor outcomes' which may not have prevented contact with the original referrer could have been re-hospitalisation elsewhere, imprisonment or death (a recent audit study showed that three of a cohort of 128 untreated referrals had committed suicide and one was a victim of homicide within a year of unsuccessful referral to Henderson Hospital).

Despite these caveats the study demonstrates a significant reduction in overall service usage which is financially quantifiable. If the benefit also includes entry or re-entry into paid employment then there are additional financial implications and cost-benefits. However, in presenting this outcome data based on sterling, the psychological and social benefits to the patient and his or her family and friends should not be forgotten or minimised. There is additional research from Henderson Hospital which demonstrates the behavioural and psychological benefits of treatment (Copas *et al*, 1984; Dolan *et al*, 1992), many of which will not be readily or meaningfully translated in financial terms.

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