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detentions has fallen. Another factor could be that patients, like everyone else, are increasingly aware of their legal rights. The availability of advocacy services may have facilitated this.

The study also demonstrates the growing workload for all involved in Mental Health Act appeal hearings. This workload may increase after passage of amendments to the 1983 Act, since the introduction of compulsory community treatment orders may result in greater numbers of patients being made subject to the Act. Although the introduction of crisis resolution and home treatment teams may reduce admissions, indications are that these teams do not reduce compulsory admissions to a statistically significant extent (Johnson *et al*, 2005).

The low rate of success of Mental Health Act appeals is not widely publicised. Patients should be informed about this before they embark on an appeal. We also need to think about whether the system is an adequate check on increasingly liberal use of psychiatric detention.

Declaration of interest

J.M. is co-chairperson of the Critical Psychiatry Network, a group of psychiatrists that has campaigned against the expansion of the remit of the Mental Health Act and D.K.S. is a member of this network.

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Impact of a crisis resolution team on service costs in the UK

AIMS AND METHODS

This paper assesses the economic impact of a crisis resolution team (CRT) in South London, using data from a prospective controlled trial. Two cohorts of patients were compared. After referral with a psychiatric crisis, the first cohort received existing services and the second cohort had access to input from a CRT. Baseline and follow-up 6-month costs were measured for 181 cases.

RESULTS

At follow-up, mean costs were £1681 less for the post-CRT patients, which was not statistically significant. However, a significant difference of £2189 was observed when patients with any CRT contact were compared with those with none.

CLINICAL IMPLICATIONS

The crisis resolution team resulted in lower costs. Such services can thus help to release funds for other forms of care.

Crisis resolution services are seen as having the potential to divert patients from expensive hospital care (Smyth & Hoult, 2000). This paper aims to compare service costs between a cohort of patients receiving routinely available care following a psychiatric crisis and a later cohort able to receive care from a specialised crisis resolution team (CRT).

Methods

Full details of the methods used in the study are provided by Johnson *et al* (2005). Patients comprised those presenting with a crisis to mental health services in the southern part of the London Borough of Islington (a deprived inner-city area). An operational definition of a crisis was developed, indicating situations where, in the absence of a CRT, clinicians would consider admission to an acute psychiatric ward.

Two cohorts were recruited. The pre-CRT cohort was recruited over a 6-month period, ending 6 weeks before the CRT started to operate, and the post-CRT cohort was recruited after the CRT had been introduced. Before the CRT was introduced, acute mental health services consisted of acute wards, two crisis houses, community

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mental health teams, and a liaison team based in the local casualty department. The CRT was added to this model and was available 24 h a day. It aimed to provide home- or community-based assessments and treatment. The CRT was staffed by nurses, social workers, support workers and a junior psychiatrist. Assessment by the CRT was required before any hospital admission.

During the study period, the research team made contact with the casualty department liaison service, local community mental health teams and crisis houses, and for the second cohort, with the CRT to identify potential crisis presentations.

The primary outcome was measured at 6-week follow-up with a secondary outcome based on a 6-month follow-up. The longer period was used for the economic analysis presented here. During the 6-month follow-up period, some pre-CRT patients could therefore have accessed the CRT as this started operating 6-weeks after the baseline assessment for that group. Similarly, some of the post-CRT cohort could have had CRT contacts during their 6-month baseline period.

Services were measured using the Client Service Receipt Inventory for the 6 months prior to the referral with a psychiatric crisis and for the period following the referral (Beecham & Knapp, 2001). Contacts with the CRT were centrally recorded

Service use data were combined with unit costs to generate service costs. Unit costs were obtained from the local National Health Service trust, a published source (Netten *et al*, 2001) or from previous studies. Costs were calculated in UK pounds. The cost of a non-psychiatrist CRT contact (£49) was calculated using data on the estimated annual operating cost of the service and the case-load.

Analysis

To compare the follow-up costs between the two cohorts we used a regression model developed in Stata (version 8.1 for Windows). In this model, baseline data were used to control for cohort differences. Baseline variables included those related to age, gender, ethnicity, marital status, living arrangements, diagnosis, symptoms, where the patient was assessed, previous admissions and previous contacts with the criminal justice system. (A full list is available from the authors.) We also controlled for any CRT costs incurred at baseline by the post-CRT cohort. Variables were removed from the regression model (except the cohort indicator and baseline cost measures) until none had *P*-values greater than 0.1. We used the cluster option in Stata to take into account the fact that some patients appeared in both cohorts. Bootstrapping was used to estimate confidence intervals (CIs) around the cost difference, given that cost data tend to follow a skewed distribution.

Sensitivity analyses were carried out by using alternative unit costs for a CRT contact (£0 to £100 in £10 increments). The analyses were also repeated by comparing patients who did and did not have CRT contacts during the follow-up period.

Table 1. Service use in six months prior to baseline and follow-up assessments

	Pre-CRT phase (*n*=65)				CRT phase (*n*=116)			
	Baseline		Follow-up		Baseline		Follow-up	
	%	Mean (s.d.) contacts[1]	%	Mean (s.d.) contacts[1]	%	Mean (s.d.) contacts[1]	%	Mean (s.d.) contacts[1]
Intervention	0	–	20	25.4 (23.9)	22	10.4 (19.4)	91	21.3 (22.7)
General practitioner	71	3.6 (2.6)	75	3.7 (2.7)	72	4.9 (3.6)	71	3.9 (5.5)
Psychiatrist	57	2.1 (1.7)	58	2.2 (1.4)	41	2.3 (1.7)	55	1.8 (1.0)
Other clinician	5	1.0 (0.0)	9	1.5 (0.8)	15	4.5 (7.5)	11	1.8 (1.1)
Casualty	31	1.4 (0.8)	31	1.7 (1.0)	35	1.9 (1.4)	35	2.3 (4.7)
Day care	26	52.1 (40.3)	37	39.2 (38.5)	10	78.7 (58.8)	17	38.3 (35.2)
CMHN	54	19.0 (29.5)	49	11.8 (7.1)	28	10.4 (7.9)	35	7.6 (7.3)
Psychiatric in-patient[2]	26	13.0 (29.8)	74	44.7 (52.4)	17	8.6 (28.1)	60	35.5 (49.4)
General in-patient[2]	5	29.7 (42.1)	8	31.4 (61.3)	10	10.1 (17.9)	4	10.8 (17.6)
Social worker	40	12.7 (19.6)	48	7.7 (6.9)	36	6.9 (7.7)	51	5.8 (6.2)
Arrested	11	1.1 (0.4)	6	2.3 (1.3)	14	1.8 (1.4)	14	1.9 (1.6)
Solicitor	8	4.4 (3.6)	9	3.0 (1.3)	7	1.9 (1.7)	6	2.7 (1.6)
Court	5	2.7 (0.6)	6	2.3 (1.0)	6	1.9 (1.2)	3	1.7 (0.6)
Police	17	1.8 (2.4)	14	2.7 (3.6)	16	2.0 (2.1)	16	2.0 (1.6)
Probation	5	3.7 (0.6)	2	5.0 (0.0)	1	6.0 (0.0)	1	6.0 (0.0)
Police cell/prison	3	75.5 (105.4)	5	14.7 (11.0)	5	2.8 (2.3)	5	9.7 (17.9)
Crisis house	6	22.5 (11.0)	22	20.8 (13.5)	3	13.3 (6.4)	15	18.2 (11.3)
Residential care	20	–	23	–	6	–	10	–
Psychologist	5	29.7 (34.1)	11	17.4 (18.3)	1	23.0 (0.0)	4	14.0 (13.1)
Practice nurse	6	14.5 (8.3)	3	18.0 (11.3)	2	12.5 (0.7)	2	7.5 (7.8)

1. Just for those using services.
2. Contacts refer to days in hospital.

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Results

Service use data were available for 181 out of the 200 patients included in the study – 65 in the pre-CRT cohort and 116 in the post-CRT cohort. Seventeen had crises in both phases of the study. The mean age was 39.6 years (s.d.=12.6), 51% were women, 36% were from a Black and minority ethnic group and 78% had previous admissions. Overall, 36% had schizophrenia, 23% bipolar disorder, 26% some other functional disorder, 9% personality disorder, and 7% other disorders (Johnson *et al*, 2005).

As might be expected, the proportion of patients receiving in-patient care between the index crisis and 6-month follow-up increased, albeit rising to a somewhat higher level in the pre-CRT group (Table 1). There was also a large increase in the proportion of patients being admitted to crisis houses in the area. During the follow-up period, a fifth of the pre-CRT patients had contacts with the CRT and just over a fifth of the post-CRT group had contacts with the team in the 6-month baseline period. During the follow-up period, 91% of post-CRT patients had contact with the team. The mean length of hospital stay increased in both groups by a similar amount. The average number of day contacts fell in both groups, particularly among the post-CRT patients.

Mean (s.d.) 6-month costs for the pre-CRT cohort were £4769 (£5721) at baseline and £9746 (£7962) at follow-up. The costs for the post-CRT cohort were £2854 (£4730) and £8094 (£7268) respectively. After adjusting for patient characteristics, the increase in cost following a crisis was on average £1681 less in the post-CRT cohort. However, this did not quite reach statistical significance at conventional levels (bootstrapped 90% CI −£3360 to £49). Sensitivity analyses revealed that a statistically significant difference of £1807 (bootstrapped 90% CI −£3477 to −£76) would be observed if the unit cost of a CRT contact were £40.

If groups were defined according to whether any CRT contact took place at follow-up, the group in contact had mean costs that were £2189 less than the group not in contact (bootstrapped 90% CI −£4053 to −£348). This difference would remain significant even if the unit cost of a CRT contact was £60.

Discussion

The results show that service cost changes for the post-CRT group were lower (on average by £1681) than for the pre-CRT group. However, this difference was not statistically significant. The sensitivity analysis showed that the post-CRT cohort would have significantly lower costs if the unit cost of a CRT contact was £40 or less, rather than the £49 used in the analysis. In addition, if groups were defined according to whether a CRT contact took place or not (rather than according to whether they were in the pre- or post-CRT phase), costs were then significantly reduced for the CRT group. There was no evidence that the involvement of the CRT results in increased costs. Clearly focusing on cost is a limitation and economic evaluations should combine cost data with outcomes. Johnson *et al* (2005) found that the CRT resulted in improved service satisfaction among patients and collectively these findings suggest that the CRT may be cost-effective because improved service satisfaction can be gained without increased cost.

This was a naturalistic study and avoided some problems that occur with experimental designs, in particular, the issue of generalisability. We believe that the study has good external validity. However, although the naturalistic design may be a strength, it makes it difficult to attain a definitive test of whether the crisis team has an impact on cost. The use of multivariate techniques addresses this issue to a large extent, but unmeasured differences may of course remain between the groups.

Conclusion

This crisis intervention service appeared to reduce care costs, but the difference compared with usual care was not significant at conventional statistical levels. Further controlled trials need to verify our findings and to combine cost data with information on patient outcomes in a full cost-effectiveness analysis.

Declaration of interest

None.

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