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Impact of functionalised community mental health teams on in-patient care

AIMS AND METHOD

A before-and-after design was used to evaluate whether the routine implementation of functionalised community mental health teams (CMHTs) would reduce demand for in-patient care. Residents of west Birmingham, aged 16–64 years, who were in hospital between 23 March 1992 and 22 September 1992 were identified. The same period was studied in 2003 by which time the

newly introduced teams were well established.

RESULTS

The number of people in hospital fell by one-third between 1992 and 2003. There was no change in the number of admissions by each patient or the length of stay. The percentage identified as Black, single, living with other adults, resident in hostels and unemployed increased, as did the

proportion with schizophrenia or manic depression and those detained compulsorily.

CLINICAL IMPLICATIONS

Functionalised CMHTs can decrease the use of in-patient care in inner-city areas. They may also attenuate, but by no means halt, the rise in compulsory admissions seen across the UK in the past decade.

North Birmingham spearheaded the introduction of functionalised community psychiatric services in the UK (Minghella *et al*, 1998). In this model generic multidisciplinary community mental health teams were superseded by specialised home treatment, assertive outreach, rehabilitation and recovery and primary care liaison teams. This approach has since been adopted as national policy in the UK (Department of Health, 2000, 2001) and is presently being implemented throughout the country (Department of Health, 2004). Although there have been studies of the efficacy of both home treatment and especially assertive community treatment teams (albeit mostly in the USA), there has been surprisingly little evaluation of the effectiveness of comprehensive functionalised community services in everyday practice and controversy surrounds their promotion (Thorncroft *et al*, 1999). It is important to determine whether this model can be applied successfully in ordinary clinical settings and in particular whether gains with regard to reduced bed usage are sustained.

Method

The study design takes the form of a before-and-after comparison. In 1992, a series of surveys were initiated to enumerate psychiatric morbidity in the adult population living in the west of Birmingham (Commander *et al*, 1997), a deprived ethnically diverse inner-city area (Smith *et al*, 1996). This included the gathering of comprehensive information on the use of in-patient care. These data offer an opportunity to evaluate the impact of a functional model (and especially home treatment and assertive outreach teams) on admission to psychiatric hospital. The services in west Birmingham were reconfigured between 1995 and 2000 and the new functionalised teams were well established at the time of the second phase of data collection. The changes were routinely introduced across the whole of the Northern Birmingham

Mental Health Trust, which in total covered a population of over half a million.

All people aged between 16 and 64 years and resident in one of eight Birmingham electoral wards (Aston, Handsworth, Soho, Sandwell, Oscott, Kingstanding, Perry Barr and Ladywood) were eligible. The baseline data were collected for patients in hospital on 23 March 1992 (census) and those subsequently admitted during the following 6 months (inceptors) up to 22 September 1992. The same time period was studied in 2003. All relevant in-patient wards were screened on a weekly basis according to the age and residency criteria. These data were checked against the information gathered by the medical records department. A simple pro forma was used to facilitate the collection of demographic and clinical data from ward staff and case records of people admitted during the 6-month period. Data were analysed using the Statistical Package for the Social Sciences, version 12.0.1 for Windows and levels of significance assessed using the χ^2 test.

Results

The number of patients in hospital during the 6 months fell from 312 in 1992 to 213 by 2003. The distribution by age and gender was unchanged (Table 1). The proportion of patients identified as Black, single, living with other adults, in supported accommodation and unemployed increased, as did the percentage with diagnoses of schizophrenia or manic depression (Table 2). A significantly higher percentage of patients from the Black ethnic group received one of the latter diagnoses both in 1992 (87% compared with 47% Asian and 53% White; $\chi^2=31.8$, $P<0.0001$) and 2003 (97% compared with 86% Asian and 72% White; $\chi^2=15.6$, $P<0.0001$).

Between 1992 and 2003 there was a significant increase (21%) in the proportion of patients detained in hospital compulsorily under the Mental Health Act 1983



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(Table 2). A greater proportion of patients from the Black ethnic group were detained compulsorily both in 1992 (65% v. 26% Asian and 22% White; $\chi^2 = 46.9, P < 0.0001$) and 2003 (79% v. 62% Asian and 42% White; $\chi^2 = 20.9, P < 0.0001$). There was no change in the number of admissions by each patient and neither the length of stay for patients in hospital on the census day nor for those subsequently admitted (mean=42 days, s.d.=41 in 1992 and mean=40 days, s.d.=36 in 2003) differed significantly between the two time periods (Table 2).

Discussion

There are obvious limitations in the study design, factors other than the highlighted service initiatives potentially accounting for the findings. Although there was little change in the adult population in west Birmingham over the decade considered (1991/2001 national census), variation in community morbidity cannot be discounted as an explanation, especially given concerns about the

Table 1. Demographic details of the patients¹

	1992		2003		χ^2	P
	n	%	n	%		
Gender					0.1	NS
Male	181	58	126	59		
Female	131	42	87	41		
Age					3.3	NS
16–29 years	76	25	49	23		
30–44 years	129	41	102	49		
45–64 years	107	34	58	28		
Ethnicity					9.6	0.02
Asian	43	14	26	15		
Black	79	26	68	38		
White	177	58	79	45		
Other	7	2	4	2		
Marital status					24.8	<0.0001
Single	159	52	116	73		
Married	92	30	17	11		
Divorced/ widowed	54	18	25	16		
Living group					11.6	0.003
Partner	74	24	18	12		
Alone	86	28	40	26		
Other adults	150	48	96	62		
Accommodation					24.4	<0.0001
Independent	208	72	98	63		
Supported	21	7	34	22		
Hospital	36	12	19	12		
Other	28	9	5	3		
Employed					11.4	0.0001
Yes	27	9	2	1		
No	268	91	164	99		

NS, not significant.
1. Missing data for each variable range from 0% to 14%.

Table 2. Clinical and service details¹

	1992		2003		χ^2	P
	n	%	n	%		
Primary diagnosis					27.7	0.0001
Schizophrenia/ manic depression	190	61	132	85		
Other	129	39	23	15		
Use of Mental Health Act 1983					34.0	0.0001
Informal	207	66	86	40		
Compulsory	105	34	127	60		
Number of admissions					2.8	NS
One	264	85	191	90		
Two	41	13	19	9		
Three or more	7	2	3	1		
Type of admission					5.4	0.02
In hospital on census day	112	36	56	26		
Inceptor during the 6 months	200	64	157	74		
Length of stay census					0.02	NS
Up to 1 year	73	65	36	64		
1–5 years	23	21	12	21		
Over 5 years	16	14	8	14		
Length of stay inceptors					0.3	NS
Up to 30 days	105	54	77	52		
31–90 days	68	35	56	38		
Over 90 days	23	12	16	11		

1. NS, not significant.
Missing data for each variable range from 0% to 11%.

emergent impact of substance misuse on the use of in-patient services (Lelliot & Audini, 2003). The unique challenges facing deprived inner-city areas should not be underestimated (Kisely, 1998). Furthermore, it must be noted that a nascent home treatment service was up and running in two electoral wards at the time of the baseline survey (with five patients on its case-load on the census day in 1992) and may have had some impact on admissions. The data were collected solely from staff and case notes (and, for example, omitted information on bed numbers, staffing levels and service costs). Consequently, the variables were few in number, unrefined and in a sizeable minority of cases missing. These caveats aside, the changing use of in-patient care demonstrated here warrants consideration given the relevance to national policy (Department of Health, 2000).

The reduction by one-third of people in hospital can be contrasted with Smyth and Hoult's (2000) projection that home treatment is feasible for 80% of people conventionally requiring admission. The same authors



contend that studies of home treatment show a reduction in admissions of 66% and propose a very pessimistic calculation of 55%. The present findings are at odds with these estimates but go beyond the 9% reduction of finished in-patient episodes for those with mental illness seen across the UK between 1991 and 1992 and 2001 and 2002 (details available from the National Statistics Statbase at <http://www.statistics.gov.uk/STATBASE/ssdataset.asp>). Contrary to expectations, there was no reduction in length of stay of patients in hospital, yet neither was there evidence that the fall in admissions was associated with an increase in readmissions. The decrease in the actual number of longer-stay patients is consistent with wider reforms that have seen the closure of continuing care wards and residential re-provision in the community over the past decade (Holloway *et al*, 1999).

There was an increase in compulsory admissions both in terms of the number of patients and as a proportion of all admissions. Nevertheless, it should be appreciated that the 21% rise in patients detained in west Birmingham is well below the 48% reported for England between 1990 and 1991 and 2000 and 2001, while the proportion detained (60%) is markedly higher than the 25% identified in England for 2000/02 (MIND, 2005). Given the predominance of patients detained in hospital compulsorily, it is not surprising that there was an increase in those diagnosed as having schizophrenia or manic depression (Commander *et al*, 1997). In turn, this is reflected in the shifting demographic profile of in-patients, with a greater proportion identified as single, unemployed and living in supported accommodation. These findings suggest that many patients with the most severe and disabling conditions remain inured to the impact of functionalised teams. They might also help us to understand the disappointing results for the Black ethnic group, as these patients were more likely than their counterparts, both in 1992 and 2003, to receive a diagnosis of schizophrenia or manic depression and to be detained compulsorily. Certainly, the findings temper any optimism attached to the value of intensive community-based psychiatric services in reversing the enduring over-representation of Black patients within in-patient settings

and reinforce the need for more widespread reforms (Department of Health, 2005).

Declaration of interest

None.

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