Trends in special (high-security) hospitals

2: Residency and discharge episodes, 1986–1995†

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Background It has been argued that many patients in special hospital beds do not need to be there. In the 1990s there were initiatives to discharge women and people with learning difficulties.

Aims To test for trends in special hospital discharges and to examine annual resident cohorts.

Method This study was from case registers and hospital records. The main measures were numbers and annual rates for referrals and beds offered; the Mental Health Act 1983 (MHA) classification of mental disorder; adjusted population rates by region; admission episodes; legal category of detention; admission source and type of offence.

Results The median annual number of residents was 1859 (range 1697–1910), with an 8% fall for the period. This particularly affected people in mental impairment categories. Numbers were sustained in the male mental illness groups. Discharges, mainly to other institutions, increased. There was no overall change over the 10 years in length of stay for treatment, but successive admission cohorts from 1986 did show some reduction, even with solely remand order cases excluded.

Conclusions Service planners need a longitudinal perspective on service use. Trends over 10 years to both fewer admissions and more discharges have reduced the special hospital population, but despite new treatments for schizophrenia, men under mental illness classification, as well as transfer from other secure settings, have gone against this trend.

Declaration of interest None.

A number of studies in the early 1990s suggested that many people resident in special hospitals did not need to be there as far as their security was concerned (Maden *et al*, 1993; Shaw *et al*, 1994; further details available from the first author upon request). Previously, concern had been expressed about the difficulties in transferring patients out of special hospitals (Dell, 1980). Some management initiatives followed: for example, a programme to discharge long-stay patients with learning disabilities and to reduce the number of women in special hospitals. The current study seeks to examine the constitution of annual cohorts of resident patients between 1 January 1986 and 31 December 1995, and to test for changes in discharge patterns and lengths of stay in special hospitals.

METHOD

The sample and indicators of flow

The population examined consisted of all patients resident in a special hospital at any time between January 1986 and December 1995.

Departures were counted by episode rather than person. Similarly, in-patient episodes were used for analysis. An in-patient episode was defined at one end by the date of admission to hospital and at the other by discharge date or the census point (31 December 1995), whichever came first. Length of stay was calculated per episode.

Data collection

Data were extracted from the Special Hospitals' Case Register; methods of collection and classification are described in the companion paper.

Statistical analysis

All deaths were omitted from the discharge cohort analysis. This also applied to remand order cases, for which the residency is by definition under three months (six months for the little-used interim treatment order), except where a person, after reappearing in court was returned to hospital within 28 days, when residency was treated as a single episode.

Frequencies for residency in hospital and discharges (adjusted for available population) and grouped by Mental Health Act 1983 (MHA) classification of disorder and type of discharge were analysed using a Poisson model with robust standard errors. Rate ratios and their 95% confidence intervals (95% CIs) are per year unless otherwise stated; the year was fitted as a linear trend. STATA v5.0 (StataCorp, 1997) and SPSS v6.1 (SPSS, 1994) were used for the analyses.

RESULTS

Residency

The total number of patients ever resident in a special hospital between the beginning of 1986 and the end of 1995 was 3263; 2679 (82%) men and 584 (18%) women. They accounted for 3522 resident episodes in special hospitals. In 236 cases (7.2%), the data thus relates to the same individual admitted on more than one occasion. Just over one-fifth of patients (n=696, 21.3%) were resident for the whole of the 10-year period, and 247 episodes (7%) began prior to 1972, the year the case register was started. The 10-year average for the number of resident episodes per year was 1826 and the average daily population of patients over the 10 years was 1650.

Table 1 shows that, overall, the number of in-patient episodes fell over the 10 years, whether calculated by average daily or annual populations. MHA disorder groups were, however, differently affected. While residency fell slightly overall, the numbers of women, especially those in the group with mental impairment, showed the most striking reduction: rate ratio 0.89 (95% CI 0.87–0.91) for this last group. Unlike other groups, the number of men resident who were detained under the mental illness category did not alter much; rate ratio 1.00 (95% CI 1.00–1.02).

†See Paper 1, pp. 253–259, this issue.

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Table 1 Special hospitals in-patient episodes by Mental Health Act classification

Year	Mental Illness			Psychopathic Disorder			(Severe) Mental Impairment			Total daily population 30 June	Total daily population 31 December	Total annual population
	Men *n* (%)[1]	Women *n* (%)[2]	Total *n* (%)[3]	Men *n* (%)[1]	Women *n* (%)[2]	Total *n* (%)[3]	Men *n* (%)[1]	Women *n* (%)[2]	Total *n* (%)[3]			
1986	917 (62)	172 (47)	1089 (59)	369 (25)	109 (30)	478 (26)	193 (13)	85 (23)	278 (15)	1645	1694	1848 (3)
1987	966 (63)	172 (47)	1138 (60)	376 (25)	118 (32)	494 (26)	189 (12)	78 (21)	267 (14)	1704	1724	1902 (3)
1988	986 (64)	176 (47)	1162 (61)	368 (24)	160 (34)	498 (26)	183 (12)	72 (19)	255 (13)	1731	1732	1919 (4)
1989	999 (65)	174 (46)	1173 (61)	369 (24)	140 (37)	509 (27)	168 (11)	64 (17)	232 (12)	1733	1720	1818 (4)
1990	994 (65)	165 (45)	1159 (61)	360 (24)	140 (39)	500 (27)	166 (11)	58 (16)	224 (12)	1706	1689	1885 (2)
1991	1004 (66)	157 (46)	1161 (62)	357 (23)	130 (38)	487 (26)	160 (11)	57 (17)	217 (12)	1713	1684	1866 (1)
1992	1039 (67)	153 (47)	1192 (64)	356 (23)	122 (37)	478 (25)	150 (10)	51 (15)	201 (11)	1681	1657	1872 (1)
1993	1053 (68)	149 (49)	1202 (65)	355 (23)	113 (37)	468 (25)	143 (9)	44 (14)	187 (10)	1609	1596	1857 (0)
1994	1005 (69)	153 (53)	1158 (65)	348 (23)	102 (35)	450 (25)	127 (9)	33 (11)	160 (9)	1563	1517	1768 (1)
1995	985 (69)	152 (55)	1137 (67)	324 (23)	97 (35)	421 (25)	114 (8)	25 (9)	139 (8)	1491	1488	1697 (1)

1. % of men during the year.
2. % of women during the year.
3. % of total population during the year.
Details for four men and one woman whose Mental Health Act 1983 classification of disorder was not known are shown in brackets in the total annual population column.

Departures from special hospital

Deaths

Table 2 shows that between 1986 and 1995 142 deaths occurred (113 men (80%) and 29, women (20%)) among patients who were the responsibility of the special hospitals. Unnatural deaths (suicide, homicide, accidental and open verdicts) accounted for 33 (23%) of the deaths and 'natural deaths' for the majority (*n*=109, 77%). Annual rates as a proportion of the number of residents in the year were similar between years of the study, for both natural and unnatural deaths. Further details are available from the first author upon request.

Remand orders

During the 10 years, 510 patients were detained in a special hospital on a court remand order (*n*=244: Section 35 (*n*=83), Section 36 (*n*=12) or 38 (*n*=149)) or a prison remand order (*n*=266; Sections 48 and 48/49). Over 70% of these episodes came in the last five years of the study. Four per cent of remand order admissions were of patients with an MHA classification of mental impairment. One hundred and thirty-one remand cases were under the MHA classification of psychopathic disorder, 121 of whom were detained under Section 38 after conviction for a criminal offence (and constituting 81% of all those who were received under Section 38). The remaining 359 patients (70% of the total remand cases) were detained under the mental illness classification of disorder. By the end of the study 232 of these patients were still resident in hospital, the majority, 93% (*n*=216) detained under hospital orders (Section 37±41 or Criminal Procedures (Insanity) Act (1964/1991)). Table 2 shows that 185 remand order patients, including 63 Section 38 subjects, had been discharged from hospital on their original order and had not returned within 28 days. These episodes are not considered further.

Discharges

With the above exceptions, all patients leave special hospital, after treatment, generally with clinical agreement that they no longer need high security; in restricted cases agreement is reached in conjunction with the Home Office. The total number of discharges after treatment constituted an increasing proportion of the available resident episodes from year to year over the 10-year period (odds ratio per year 1.04 (95% CI 1.03–1.06)). This overall trend, however, masks some variation in particular years (*P*=0.02, for years as 10-category variable compared to year as linear trend). There was a decrease in 1990–91, followed by a particularly large increase in 1992–93.

Types of discharge

For the majority of patients, the most likely placement on leaving special hospital was another institution (77%). Table 3

Table 2 Number and percentage of all special hospital patients discharged (including deaths) in each study year

Year of discharge	Deaths *n*	%	Remand discharges *n*	%	Other discharges *n*	%	Total discharged *n*
1986	10	6.58	6	3.95	136	89.47	152
1987	13	7.34	6	3.39	158	89.27	177
1988	15	8.02	6	3.21	166	88.77	187
1989	13	6.37	13	6.37	178	87.25	204
1990	24	12.31	14	7.18	157	80.51	195
1991	13	7.07	16	8.70	155	84.24	184
1992	16	7.41	32	14.81	168	77.78	216
1993	15	5.77	27	10.38	218	83.85	260
1994	16	6.32	32	12.64	205	81.00	253
1995	7	3.36	33	15.86	168	80.76	208
Total	142	6.97	185	9.08	1709	83.93	2036

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confirms that 410 people in all (24%) went directly back into the community, but 1068 (62%) went to another hospital and 209 (12%) back to prison. Community placement was usually in independent accommodation or residency supervised by paid workers (n=238 (56%)) and less often with family or close acquaintances (n=101 (25%)). In 80 cases the nature of the placement was not specified.

The type of placement varied over time ($P<0.001$). Community discharges were more or less constant over the years: rate ratio 1.00 (95% CI 0.96–1.03, P=1.00), but discharges to another hospital increased significantly: rate ratio 1.4 (95% CI 1.01–1.06, P=0.006), these rates being similar for men and women. The number of men discharged back to prison also rose (rate ratio 1.08, 95% CI 1.02–1.14, P=0.01), notwithstanding the low figure in the last year of analysis. The numbers of women involved in prison transfers were too small for analysis.

Length of stay of discharged patients (excluding deaths and remand cases)

The median length of stay for patients discharged at any time during the 10 years studied was 6.3 years (mean 8.2 years, range 0.01–52.3). Women, with a median length of stay of 7.5 years (mean 10.1 years, range 0.03–52.3), tended to stay longer than men (median 7.0 years; mean 8.8 years, range 0.02–51.5). As median figures allow better for the variation within the groups, they were used in all other subsequent calculations. Between the mental disorder groups there was something of a hierarchy, with the small group of people detained under severe mental impairment staying longest (median 19.9 years, range 0.7–51.5), followed by those under mental impairment (median 8 years, range 0.2–40.6), and those in the mental illness category (median 6.1 years, range 0.03–44.7), while those with psychopathic disorder represented the shortest stay group (median 5.3 years, range 0.1–36.2).

The nature of the act that had precipitated admission appeared to have had little effect *per se* on the length of stay, but a criminal conviction was associated with shorter lengths of stay (median 7.0 years, range 0.01–42.9) than behaviour which had been contained within the health services, albeit inclusive of transfer to special hospital (median 10.8 years, range 0.2–52.3). The figures for length of stay by nature of detention order reflected this, with civil cases (Section 3) staying longer (median 10.4 years, range 0.38–42.9) than hospital order cases (Section 37±41 and Criminal Procedures (Insanity) Act) (median 7.3 years, range 0.08–34.2) and in turn sentenced prisoners (Section 47±49) (median 2.7 years, range 0.08–34.2). Analysis of variance of log-transformed length of stay showed significant differences for MHA classification of disorder and legal detention ($P<0.01$ in both cases). On controlling for these, there was no gender difference (P=0.6).

Trends in length of stay

When considering all patients discharged during the period, that is, regardless of admission date, the median length of stay remained constant year by year. However, taking only the subgroup of patients who were also admitted (excluding the remand order cases) within the study period (n=1691), there was evidence that the chance of being discharged increased slightly in each subsequent admission group. A Cox regression model of stay against year of admission showed that the rate of discharge increased with admission year (P=0.001, Hazard Ratio 1.06, 95% CI 1.02–1.09). Controlling for MHA classification of disorder, gender and legal form of detention as covariates confirmed this trend.

THE NET EFFECT ON ADMISSION AND DISCHARGE TRENDS

Figure 1 summarises the numbers of referrals, admissions (see companion paper pp. 253–259, this issue), discharge episodes and resident episodes in the special hospitals between 1986 and 1995. A reduction in the number of admissions and an increase in discharges have combined to account for the reduction of resident populations.

Table 3 Number of patients discharged from special hospital into various facilities (except remand order and death cases)

Year discharged	Community		NHS		Prison		Total cases[1]
	M	F	M	F	M	F	
1986	32	7	64	20	11		136
1987	34	9	85	14	15	1	158
1988	32	7	89	19	16	1	166
1989	25	9	90	36	14	1	178
1990	24	18	62	22	27	1	157
1991	28	18	60	24	21	2	155
1992	36	10	74	24	18	1	167
1993	33	14	114	25	29	1	218
1994	38	9	98	27	32		205
1995	23	4	90	31	18		168
Total	305	105	826	242	201	8	1708

1 not known, case omitted; 21 cases (18 men, 3 women discharged by court) were omitted.
1. Total including missing cases.

DISCUSSION

Trends in resident populations

Studies completed in the middle of the period studied here (Maden *et al*, 1993; Shaw *et al*, 1994; further details available from the first author upon request) suggested that no more than 50% of the resident patients needed high-security care, and yet the average increase in discharges of 4% per year over the period following these findings would not, even cumulatively, have achieved a comparable reduction in residency. By 1996, it was recognised that both research and clinical estimates of readiness for a lesser degree of security in these series might have been overstated. Reasons included documented pessimism about projected changes in mental state and the likelihood of deterioration under the stress of transfer (Taylor *et al*, 1996). For the 10 years of this study, 10–15% of

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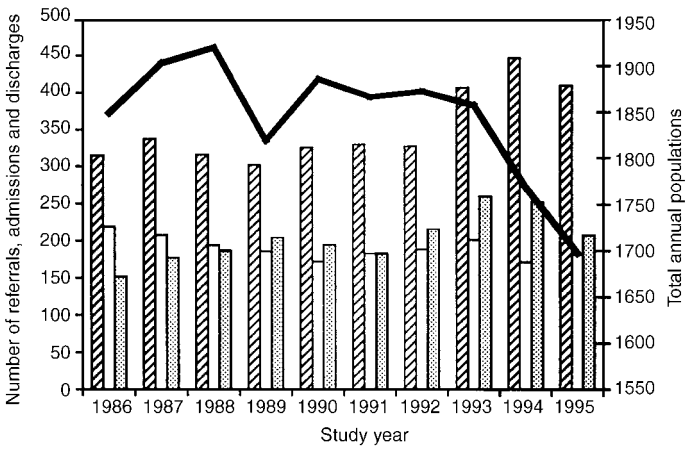

Fig. 1 Summary of special hospital referral, admission, resident population and discharge episodes. ▨, referrals; □, admissions; ▩, discharges; —, total population.

the people in the annual discharge cohorts were readmitted to special hospitals, the lower figure reflecting the later years, with shorter time at risk of return. Further, the figures do not take account of people who had returned during a period of trial leave, so they actually yield a considerable underestimate of returning patients.

Just as there appears to be a possibility that admission cases are becoming more challenging, it would seem that people for whom discharge cannot be achieved and discharged patients returning may result in a growing residual population, posing exceptional difficulties even by the standards required for detention in a special hospital. Increasing chance of discharge implies shorter lengths of stay for successive admission cohorts over the 10-year period, even when 'remand only' cases have been excluded from the calculations. The possible reasons for this were not tested in this study, but may include improved specific treatments for the majority of the mental illness group, for whom the diagnosis of schizophrenia is most common, and better liaison and planning for discharge in conjunction with colleagues elsewhere in the National Health Service (NHS) and social services under the Care Programme Approach. For planning purposes, all these issues have to be balanced against the small reduction in the size of the resident population.

Patient subgroup differences

The different patterns of discharge and length of stay for subgroups of patients were only partly expected. As noted, the Special Hospitals' Service Authority (SHSA) had set up a number of initiatives to reduce the number of resident women and mentally retarded individuals, and the timing of the most marked reductions in their numbers and proportions would suggest that the change was an effect of these initiatives. There was no plan to reduce the number of places for people with a personality disorder, and yet, save for the unlikely possibility that there was a considerable upsurge in the number of cases in which mental illness was used as the grounds for their detention (as happens in a minority of cases: Taylor *et al*, 1998), admission episodes fell and discharges rose, with the inevitable effect on residency. Special hospitals would not have been immune to the growing general disquiet about the compulsory treatment in hospital of people with a personality disorder, but one of the special hospitals also faced specific criticisms in this regard. One major relevant official inquiry took place within the study period (Blom-Cooper, 1992), focused on Ashworth Hospital. Ashworth was disproportionately affected by a reduction in the number of patients resident under the psychopathic personality disorder category, but had started from a higher baseline (215 Ashworth residents with personality disorder in 1986; peak 234, in 1989; 175 in 1995; whereas Broadmoor had 107, a peak of 124 in 1994, and 116 in 1995, respectively; Rampton had 156, a peak of 157 in 1988/91, and 129 in 1995). In spite of psychiatrists' reluctance to provide for this group of people now extending to the special hospitals, a clinical need has been identified (Gunn *et al*, 1991; Maden *et al*, 1993, 1995; Taylor *et al*, 1996), the challenge will not go away, and the government is demanding a better health service response (Jack Straw, *The Times*, 31 October 1998).

The greater length of stay for the minority group of patients who had not been convicted of a criminal offence prior to admission to special hospital and were detained only under Section 3, without Home Office restrictions on discharge or transfer, at first sight seems counter-intuitive. Nevertheless, this is consistent with an earlier study by Dell, in 1980. It is probably partly related to the type of people most likely to be detained under this provision, viz. those with a learning disability. Alternative facilities are, if possible, even scarcer than for other patients. Perhaps the position becomes more understandable, however, if we remember that this group consists of people who had almost invariably been transferred to a special hospital from another NHS placement, when that had irretrievably broken down because of violence to other patients or staff. Memories are long, and with a shortage of psychiatric beds, these are perhaps the least welcome patients.

Changes elsewhere in the health service

The changes in numbers resident in special hospitals must also be considered as a possible reflection or effect of national changes elsewhere in the health services for England and Wales. We could not find figures for total bed occupancy in other health service facilities over the same period, but in any case, since all special hospital patients are compulsorily detained, it is probably more appropriate to consider them side by side with other detained patients. During the 10 years under study, the number of patients subject to civil detention orders increased considerably, nationwide and in all services. Focusing on treatment orders (Section 3 of the MHA), the only civil provision used at all regularly in the special hospitals, a 38% reduction in special hospital cases is in the opposite direction from the overall 75% national increase (2012 in 1986 to 9275 in 1995/96) (Department of Health, 1998).

In contrast, there has been an increase in all parts of the health service in the numbers of people detained under restriction

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orders (Sections 37/41, 47/49 and 48/49) (overall increase 41%, from 1758 to 2478) (Kershaw & Renshaw, 1997). Hospitals outside the high-security system have taken on an increasing proportion of cases, from 35% in 1986 to 50% in 1995; however, this burden is distributed across a large number of settings, so that the proportion of such patients resident in any one hospital other than the special hospitals remains very small. Within the special hospitals, the proportion of patients with restrictions placed on their discharge has risen from two-thirds to three-quarters of the annual resident populations, another likely indicator of increasing demands on special hospital staff. There has been an increase in the number of medium secure beds during this period, from 810 (1988/1989) to 1370 (1995/1996) (Department of Health, 1997). This may have contributed to shortening of the lengths of stay, partly through its impact on the stage of admission of criminal cases (patients are now more likely to have spent time in a secure unit first (see companion paper pp. 253–259, this issue), and partly through having the conditions and the staff able to accept patients at a notionally earlier stage of rehabilitation than other health service facilities.

In a study such as this, detail is inevitably sparse, but with the exception of the referrals data noted in the previous paper, it provides indicators of overall trends in special hospital use over the 10 years considered, and as such is likely to be a more reliable aid to service planning than either cross-sectional snapshots or estimates of need by researchers or clinicians which have hitherto been presented. This study and its companion paper suggest that both input and output changes are making the resident population more of a challenge.

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CLINICAL IMPLICATIONS

- Overall the number of discharges from special hospitals has increased both to prison, (almost invariably for prison transfers) and to other NHS (mainly medium-secure) units. The number of discharges direct to the community has remained constant.
- Although overall trends in the length of stay of treated patients remained constant, taking only those patients also admitted within the study period, there were indications of a decrease in length of stay over time, from the proportion of such people in the later admission cohorts who were discharged.
- The length of stay for the group indicates the chronic nature of the presenting disorders. Long-term care is likely to be required after discharge from special hospital.

LIMITATIONS

- Referral data were not collected consistently over time and across sites, so that it is not possible to interpret accurately the apparent increase in 1993. Increases in referrals over time were consistent within each band of homogeneous data collected.
- Full clinical details of the patients referred and admitted to special hospital were unavailable. Therefore the Mental Health Act classification of disorder was used as a surrogate measure of mental disorder; however, it provides only an indicator of the complexity of diagnosis, and little data on severity.
- The nature of the study necessarily confined analysis to referrals and admissions of people already identified as likely to be suitable for a special hospital bed. Potentially suitable cases not recognised by prison doctors or psychiatrists can only be estimated from independent studies of other services.

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APPENDIX

Glossary of powers of compulsory admission to hospital referred to in these papers

Mental Health Act 1983: The most recent mental health legislation for England and Wales. Powers under this Act:

Transfers to hospital (no concurrent criminal offence) in the interests of the patient's health or safety or with a view to the protection of others.

Section 2: Admission for assessment; and

Section 3: Admission for treatment

Pre-trial directed transfers to hospital when charged with a criminal offence:

Section 35: For report } From court,
Section 36: For treatment } 12 weeks maximum

Section 48: For urgent treatment (mental illness and severe mental impairment only) from prison; Secretary of State, Home Office authorisation; until trial.

Following conviction for an imprisonable criminal offence, except where life sentence mandatory

Section 38: Interim hospital order (trial of treatment), six months' maximum (for the study period).

Section 37: Hospital order, in lieu of sentence, six months, renewable.

Following conviction and imprisonment:

Section 47: Transfer from prison to hospital; Home Office authorisation; until earliest release date, then notional Section 37 may be applied.

Restrictions on discharge: The court (***Section 41***), in conjunction with a hospital order, or the Home

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Office (***Section 49***) in connection with prison transfers, may impose restrictions on discharge from the order, such that the clinicians may not discharge without the approval of the Home Office or a mental health review tribunal chaired by someone with judicial experience.

Mental health review tribunal: A body independent of the hospital (or Home Office) authorities, consisting of a lawyer chairman, a doctor with special psychiatric expertise and a lay person, which may order the discharge of the detaining order.

Criminal Procedures (Insanity and Unfitness to Plead) Act 1991: Allows determination in court of incapacity to stand trial or, where trial possible, a finding of 'not guilty by reason of insanity' with disposal according to demonstrated need and risk, which may include detention in hospital.

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