Patterns of hospital admission for adult psychiatric illness in England: analysis of Hospital Episode Statistics data

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Background The assessment and reporting of national patterns of psychiatric hospital admissions is important for strategic service development and planning.

Aims To investigate patterns of psychiatric hospital admissions of patients aged 16–64 years in England.

Method We used the Department of Health's national Hospital Episode Statistics data on admissions to National Health Service hospitals in England between April 1999 and March 2000, to investigate patterns by region, gender, age and diagnosis.

Results The annual admission rate for England was 3.2 per 1000 population. There were marked regional variations and rates were higher in males than in females. Depression and anxiety together were the most common (29.6%) reason for admission. Length of stay exceeded 90 days in 9.2% of admissions and 1 year in 0.9% (highest in London and for psychoses).

Conclusions Depression and anxiety together were the most frequent diagnoses leading to hospitalisation. There has been a reversal of the previously reported predominance of female admissions. Regional variations in activity and the significant numbers of patients remaining for long periods in 'acute' in-patient care have important policy implications.

Declaration of interest None.

The number of in-patient psychiatric beds in England has fallen dramatically over the past 40 years. This has led to increasing concerns about both the adequacy of current levels of provision (Ford *et al*, 1998; Department of Health, 2000) and the quality of the care provided (Sainsbury Centre for Mental Health, 1998). Although there has been much discussion about the number and use of psychiatric beds, there has been little focus on the patterns of admissions nationally and the type of patients admitted to psychiatric units. Hospitalisation still accounts for about 75% of National Health Service (NHS) spending on mental health (Lelliot *et al*, 1996). This article provides a cross-sectional overview of all admissions to English psychiatric hospitals in the financial year 1999, using national Hospital Episode Statistics (HES) data.

METHOD

Hospital Episode Statistics data

We used an extract of the Department of Health's Hospital Episode Statistics (HES) data to identify all admissions to NHS hospitals for the treatment of psychiatric disorder between 2 April 1999 and 30 March 2000 (Department of Health, 2004). We excluded the dates 1 April 1999 and 31 March 2000, because when trust mergers occur all the patients of the trusts undergoing change are recorded in HES as being discharged on 31 March and admitted to the new trust on 1 April. Therefore we looked at 'near year' admissions.

An episode of in-patient care may comprise a series of consecutive periods of care under different consultants or specialties as the patient is investigated and treated. The admission episodes included in our analysis were defined as those in which the first episode (finished consultant episode) of the spell of in-patient treatment (records with an epiorder of 1) was under the care of one of the psychiatric specialties listed below. We excluded episodes of care in which the patient was referred to the psychiatric services following an initial episode of care under another specialty (e.g. a medical admission for self-harm). Readmissions were included within the data-set and so the analyses presented are based on the total number of admission episodes rather than the number of individuals admitted.

Admission rates (age-standardised to the European standard population) were calculated using the 2001 census data (mid-year population estimates) as the denominator. The analysis was restricted to patients aged 16–64 years. Records were extracted for all admissions under the specialties mental illness, forensic psychiatry, child and adolescent psychiatry, mental handicap, psychotherapy and old age psychiatry: HES field code Main Specialty (Mainspef), codes used 700, 710, 711, 712, 713 and 715. Each record contains a variety of administrative, clinical and patient information describing the care and treatment a patient received while in hospital. For each admission, data were extracted for diagnosis, gender, age and the regional health authority of residence. Median length of admission, mean total occupied bed-days and the proportions of patients remaining in hospital for more than 90 days and for more than 365 days (Glover *et al*, 1990) were also examined for each of the following broad diagnostic groups, using the ICD–10 codes: organic disorders (F00–09), substance misuse (F10–19), schizophrenia and related psychoses (F20–29), mania (F30–31), depression and anxiety (F32–49), eating disorders (F50) and 'other' (F51–69, F99) (World Health Organization, 1992).

The main or primary diagnosis code we used from HES ('diagnosis 1') was assigned at the end of the first finished consultant episode. The primary diagnosis is defined by the Department of Health as the main condition treated or investigated during the relevant episode of health care (where a definitive diagnosis cannot be given, a code describing the main symptom, abnormal finding or problem should be used).

As information for length of stay is only coded at the end of a consultant care episode, and we were concerned not to exclude patients admitted during 1999–2000 but who had not been discharged within the period covered by our HES

extract, our analysis of length of stay was based on a separate HES extract consisting of those discharged between 2 April 1999 and 30 March 2000. Some of these patients (9806 patients) were admitted prior to 2 April 1999. We used this data-set to estimate the duration of the first consultant episode of care as our measure of length of stay. This approach leads to an underestimate of total length of stay, as some patients may complete one consultant episode and be transferred to the care of another. For all other analyses, the HES extract used was based on all admissions within our study year only. We calculated 95% confidence intervals for all rates and proportions.

Data management

Duplicate records were identified and removed from the data extracts by matching on a number of the data fields, including date of birth, gender, postcode, diagnosis, place of admission, admission date and discharge date. Gender-specific analyses exclude the 1.6% of episodes where gender was recorded as 'other'.

RESULTS

Overall national and regional patterns of admissions

There were 102 980 admissions to psychiatric hospitals in England in the financial year 1999/2000 for the age group 16–64 years. The mental illness specialty accounted for 97.3% of all admissions, with old age psychiatry, forensic psychiatry, mental handicap, child and adolescent psychiatry and psychotherapy accounting for 0.9%, 0.8%, 0.6%, 0.4% and 0.04% respectively. The age-standardised annual rate of admission for psychiatric disorder in England for ages 16–64 years was 3.2 per 1000. There was regional variation: rates were highest in the North West region (3.8 per 1000) and lowest in the Eastern region (2.7 per 1000) (Fig. 1).

Age and gender

Overall the admission rates were higher for males (3.3 per 1000) than for females (3.0 per 1000). For males, admission rates peaked in those aged 25–44 years. For females the rates were highest in those aged 35–44 years. The gender ratio was narrowest in the older age groups (Table 1).

Diagnostic group

Table 2 shows the total number of admissions categorised by diagnostic group for England and the proportion of total admissions accounted for by each group for the 1-year period. For England as a whole, depression and anxiety (F32–49) were the most common reason for hospital admission, accounting for 29.6% of all admissions. Schizophrenia and related psychoses (F20–29) accounted for 26.0% of admissions, substance misuse 19.1% and others 12.2%. There were a number of regional differences: the proportion of admissions for schizophrenia and related psychoses was higher than for depression and anxiety in London only (34.5% v. 21.7%). Admissions for organic disorders were highest in the Northern & Yorkshire region and the proportion of admissions for substance misuse highest in the North West region.

Length of stay

Nationally 9.2% of patients stayed longer than 90 days, 0.9% of patients stayed longer than 365 days and the median length of stay was 15 days. For the six psychiatric specialties – mental illness, forensic psychiatry, old age psychiatry, mental
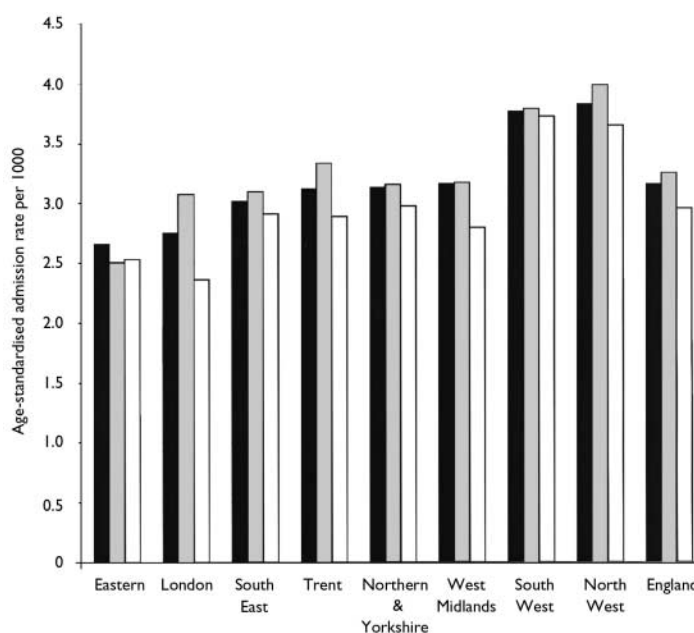
Fig. 1 Age-standardised psychiatric admission rates per 1000 population per year (black bars) and categorised by gender (males, shaded bars; females, white bars), aged 16–64 years (data from Hospital Episode Statistics, Department of Health, 2000).

Table 1 Annual psychiatric admission rate per 1000 population, April 1999 to March 2000 (England)

Age category (years)	Admission rate per 1000 (95% CI)		
	Male	Female	Total
16–24	3.0 (2.9–3.0)	2.1 (2.0–2.1)	2.6 (2.5–2.6)
25–34	4.1 (4.0–4.1)	3.2 (3.2–3.3)	3.7 (3.7–3.8)
35–44	4.1 (4.0–4.2)	3.9 (3.8–4.0)	4.1 (4.0–4.1)
45–54	2.6 (2.6–2.6)	2.8 (2.8–2.9)	2.8 (2.7–2.8)
55–64	2.3 (2.2–2.4)	2.7 (2.6–2.7)	2.5 (2.5–2.6)
All ages	3.3 (3.3–3.3)	3.0 (3.0–3.0)	3.2 (3.2–3.2)

Data from Hospital Episode Statistics (Department of Health, 2000).

Table 2 Proportion of psychiatric admissions by diagnostic group (primary diagnosis) and region of England, aged 16–64 years, April 1999 to March 2000 (England)

Diagnostic category	Proportion of psychiatric admissions, % (95% CI)								
	Northern & Yorkshire	Trent	West Midlands	North West	Eastern	London	South East	South West	Total England
Organic disorders	2.8 (2.5–3.1)	1.4 (1.1–1.6)	1.8 (1.6–2.1)	1.3 (1.1–1.5)	1.1 (0.9–1.3)	0.9 (0.8–1.1)	1.3 (1.2–1.5)	1.2 (1.0–1.5)	1.5 (1.4–1.5)
Substance misuse	16.9 (16.2–17.5)	20.1 (19.4–20.9)	21.9 (21.2–22.7)	22.8 (22.1–23.4)	14.0 (13.3–14.8)	21.9 (21.2–22.6)	16.9 (16.3–17.5)	17.2 (16.5–17.6)	19.1 (18.9–19.4)
Schizophrenia and related psychoses	24.7 (24.0–25.5)	24.8 (23.9–25.6)	23.4 (22.6–24.2)	27.9 (27.2–28.6)	20.8 (19.9–21.6)	34.5 (33.7–35.3)	25.5 (24.9–26.2)	23.5 (22.7–24.3)	26.0 (25.8–26.3)
Mania	10.9 (10.3–11.4)	9.7 (9.1–10.2)	10.9 (10.3–11.5)	10.8 (10.3–11.2)	11.4 (10.8–12.1)	10.9 (10.3–11.3)	10.8 (10.3–11.3)	11.4 (10.9–12.0)	10.8 (10.6–11.0)
Depression and anxiety	33.5 (32.7–34.3)	31.4 (30.4–32.2)	29.8 (28.9–30.7)	30.4 (29.7–31.1)	27.9 (27.0–28.8)	21.7 (21.0–22.4)	30.4 (29.7–31.1)	31.8 (31.0–32.7)	29.6 (29.3–29.9)
Eating disorders	0.9 (0.7–1.0)	0.4 (0.3–0.5)	0.7 (0.6–0.9)	0.5 (0.4–0.6)	0.5 (0.4–0.6)	0.9 (0.7–1.1)	0.8 (0.7–0.9)	1.2 (1.0–1.4)	0.7 (0.7–0.8)
Other	10.4 (9.9–11.0)	12.3 (11.7–12.9)	11.4 (10.8–12.0)	6.4 (6.0–6.7)	24.4 (23.5–25.1)	9.2 (8.8–9.7)	14.3 (13.8–14.8)	13.6 (13.0–14.3)	12.2 (12.0–12.4)
All diagnoses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Data from Hospital Episode Statistics (Department of Health, 2000).

Table 3   Proportion of patients remaining in hospital for more than 90 days, more than 365 days, and the median length of stay, ages 16–64 years, April 1999 to March 2000 (England)

Region	Proportion of patients, % (95% CI)		
	Length of stay > 90 days	Length of stay > 365 days	Median length of stay (days)
Northern & Yorkshire	8.4 (7.9–8.9)	0.8 (0.7–1.0)	15
Trent	8.9 (8.4–9.5)	1.0 (0.8–1.2)	14
West Midlands	8.7 (8.2–9.2)	0.7 (0.5–0.9)	16
North West	9.5 (9.0–9.9)	0.8 (0.7–1.0)	17
Eastern	8.3 (7.8–8.9)	0.8 (0.7–1.0)	15
London	11.3 (10.7–11.8)	1.3 (1.1–1.5)	17
South East	10.0 (9.6–10.5)	1.2 (1.0–1.3)	16
South West	7.7 (7.2–8.2)	0.6 (0.5–0.8)	13
Total (all regions)	9.2 (9.0–9.4)	0.9 (0.9–1.0)	15

Data from Hospital Episode Statistics (Department of Health, 2000).

handicap, child and adolescent psychiatry and psychotherapy – the median lengths of stay (in days) for each group were 15, 79, 14, 40, 155 and 40, respectively. Table 3 shows that although the London region had the second lowest admissions rate, it had the highest proportion of long-stay patients, at both the 90-day and 365-day cut-off points. London also had the longest median stay, at 17 days.

Long stays were most frequent at the extremes of the age distributions studied (Table 4). The main condition category contributing to prolonged length of stay was schizophrenia and related psychoses, accounting for approximately half (52.5%) of the patients who remained in hospital for longer than 90 days and two-thirds (67.9%) of those remaining for longer than 365 days (Fig. 2). The median

admission period was longest for those with a diagnosis of eating disorder (36 days; Table 5). The number of mean total occupied bed-days was greatest for schizophrenia and related psychoses – almost twice that for depression and anxiety.

DISCUSSION

There are four main findings from this analysis. First, there was a regional variation in admission rates for the period studied, with a difference of approximately 30% between the lowest and highest rate regions. Second, more men than women were admitted to psychiatric beds. Third, depression and anxiety was the main recorded diagnosis given as the reason for admission. Fourth, length of stay for

around 1 in 11 patients exceeded 90 days and for about 1% exceeded 1 year. Psychotic illness was the main cause of prolonged admission, accounting for about a half of admissions lasting more than 90 days and two-thirds of those lasting over 1 year. It also accounted for the highest number of mean total occupied bed-days. London had the highest rate for these long periods of stay but the second lowest rate of admission overall.

Limitations of the study

There are a number of problems with the use of large national data-sets such as the Hospital Episode Statistics. The scale and complexity of the task of gathering the data and the large numbers of individuals involved can give rise to reduced levels of accuracy. The HES data include out-of-area placements, readmissions and day patient admissions (e.g. for electroconvulsive therapy), and patterns of such care and recording may vary by region. One limitation of the HES database is that it contains no information on number of admissions to the independent sector, rates of which may vary between regions (McCrone, 2003).

The completeness of HES data in identifying all admissions and the reliability of diagnostic coding in different centres are both potential problems with nationally collected data. The Department of Health has undertaken studies to estimate the completeness of HES coverage (missing records) and the accuracy of coding. Overall, HES coverage has been consistently high: within 5% of the figures obtained from manual contracting forms for the majority of regions (Department of Health Statistics Section SD2 HES, 1998). A systematic review

Table 4   Proportion of patients, categorised by age and gender, who remained in hospital for more than 90 days or more than 365 days and the median length of stay

Age category (years)	Male patients			Female patients			Male and female patients		
	LOS > 90 days % (95% CI)	LOS > 365 days % (95% CI)	Median LOS (days)	LOS > 90 days % (95% CI)	LOS > 365 days % (95% CI)	Median LOS (days)	LOS > 90 days % (95% CI)	> 365 days % (95% CI)	Median LOS (days)
16–24	11.0 (10.3–11.7)	1.5 (1.2–1.7)	14	10.6 (9.8–11.4)	0.7 (0.5–1.0)	13	10.8 (10.3–11.3)	1.2 (1.0–1.3)	14
25–34	9.8 (9.4–10.3)	1.2 (1.1–1.4)	13	7.8 (7.4–8.3)	0.7 (0.5–0.8)	15	8.9 (8.6–9.3)	1.0 (0.9–1.1)	14
35–44	7.6 (7.2–8.1)	0.9 (0.7–1.1)	13	7.4 (7.0–7.9)	0.6 (0.5–0.7)	16	7.7 (7.3–8.0)	0.7 (0.7–0.9)	14
45–54	8.5 (8.0–9.1)	1.0 (0.8–1.2)	15	9.3 (8.8–9.9)	0.8 (0.7–1.0)	19	8.9 (8.5–9.3)	0.9 (0.8–1.0)	17
55–64	11.1 (10.3–12.0)	1.0 (0.8–1.4)	19	13.0 (12.2–13.9)	0.9 (0.7–1.2)	25	12.1 (11.6–12.7)	1.0 (0.8–1.2)	22
All ages	9.3 (9.1–9.6)	1.1 (1.0–1.2)	14	9.1 (8.9–9.4)	0.7 (0.6–0.8)	17	9.2 (9.0–9.4)	0.9 (0.9–1.0)	15

Data from Hospital Episode Statistics (Department of Health, 2000).
LOS, length of stay.
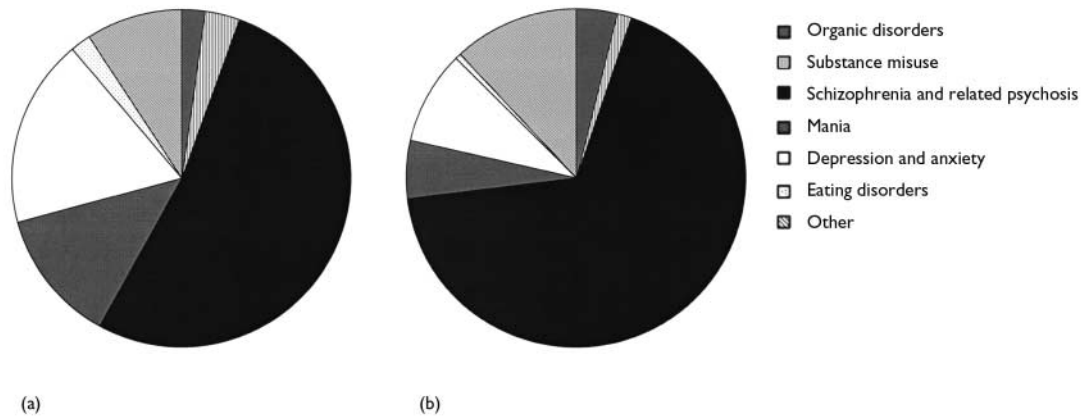
Fig. 2 Psychiatric diagnoses of all patients remaining in psychiatric hospital for >90 days (a) and >365 days (b), aged 16–64 years (data from Hospital Episode Statistics, Department of Health, 2000).

Table 5 Proportion of psychiatric admissions within a particular diagnostic group with hospital stay >90 and >365 days, the median length of stay and mean total occupied bed-days

Diagnosis	Proportion of admissions		Median length of of stay (days)	Mean total occupied bed-days[1]
	LOS >90 days % (95% CI)	LOS >365 days % (95% CI)		
Organic disorders	13.2 (11.6–15.0)	2.2 (1.6–3.2)	15	77 517
Substance misuse	1.7 (1.5–1.9)	0.1 (0.1–0.1)	10	308 850
Schizophrenia and related psychoses	18.4 (17.9–18.8)	2.4 (2.2–2.6)	28	1 663 875
Mania	10.9 (10.3–11.4)	0.5 (0.3–0.6)	27	479 563
Depression and anxiety	5.6 (5.4–5.9)	0.3 (0.2–0.3)	14	836 359
Eating disorders	26.8 (23.7–30.2)	0.7 (0.2–1.6)	36	47 636
Other	7.0 (6.5–7.4)	0.9 (0.8–1.1)	10	362 266
All diagnoses	9.2 (9.0–9.4)	0.9 (0.9–1.0)	15	3 460 316

Data from Hospital Episode Statistics (Department of Health, 2000).
LOS, length of stay.
1. Mean length of stay × total number of admissions.

of discharge coding accuracy by Campbell *et al* (2001) included 21 studies and found that the median coding accuracy rate was 91% for diagnostic codes. However, none of these studies specifically addressed psychiatric diagnostic codes, and future research should address this deficiency. The rates for mania were remarkably similar across regions in our data, and a number of local studies discussed below report findings similar to ours. It is still possible, however, that regional variations in diagnostic groups reflect, at least in part, regional differences in diagnostic practices. Interpretation of diagnosis patterns must be done with caution, as the accuracy of coding of psychiatric diagnosis by HES coders has

not, to the best of our knowledge, been evaluated.

The HES data we have analysed include all admissions to psychiatric units from six psychiatric specialties, including forensic psychiatry. Forensic admissions in particular are associated with long duration of stay, and so the siting of forensic units will influence local patterns of patient episodes lasting more than 365 days. However, although the median length of stay was greater for patients whose psychiatric admission specialty was forensic psychiatry, the impact of these patients' data is slight as they accounted for only 0.8% of total admissions. We note that our analysis might actually have underestimated the

true length of hospital stay, as we only included the first period in an episode of in-patient care and did not consider transfers of care to another consultant or specialty (approximately 2% of admissions had a transfer of care).

Our method of collection of psychiatric cases, using admissions under psychiatric specialties and ICD–10 primary diagnosis codes, is likely to have missed a number of cases first admitted to other non-psychiatric specialties but with psychiatric morbidity. The most obvious of these is the number of patients admitted with self-harm or overdose. However, the number of patients subsequently transferred to psychiatric specialties who had a primary diagnosis in one of our diagnostic groupings was reassuringly low. We were unable to look at diagnoses other than the primary or main diagnosis with our methodology.

Patterns of admissions: comparison with previous studies

To date there has been limited reporting of HES data for psychiatric admissions. Smith *et al* (1996) used HES data for 1992 to develop an index of relative need for psychiatric services and reported an overall (all ages) in-patient admission rate of 4.2 per 1000 in England. In their analysis there was an excess of female admissions, but this was due to higher admission rates among those aged 45–79 years; those aged 65 years and over were not included in our analysis. Like us, Smith *et al* found higher male admission rates in those aged 16–44 years.

With respect to the distribution of diagnoses accounting for hospital admission in

England, there is no large national comparator. Bartlett *et al* (2001) made a detailed and comprehensive survey of 730 consecutive acute adult hospital admissions in Avon Health Authority (serving about 650 000 people) between January and June 1998. In keeping with our analysis they reported an excess of male admissions. The distribution of main diagnoses underlying the admissions was also similar to that seen in our data: depression and anxiety 35%, schizophrenia and related psychoses 26%, mania/bipolar disorder 14% and substance misuse 11%.

Flannigan *et al* (1994) reported admission rates of 3.5 and 4.2 per 1000 per year in a detailed survey of two deprived London districts in the early 1990s. Estimates in their study, however, included all ages but excluded diagnoses of dementia in those aged over 65 years, those in secure facilities and those who had been in hospital for more than 6 months. The relative frequency of the main diagnoses showed that psychosis accounted for around half of all admissions in both London districts, affective and neurotic disorder around 40% and substance misuse only 3%. This contrasts with data from our analysis, which indicate that substance misuse accounts for around 20% of admissions. Our rates for substance misuse are fairly uniform and do not vary greatly by region. We investigated the secondary diagnosis code for these admissions and it does not appear that these people are patients with 'dual diagnosis' mental illness and drug and alcohol use disorders. We also looked at the possibility that this group included a large number of patients admitted for 'drug-induced psychosis', but this does not appear to be the case. The ICD–10 diagnostic group of 'psychotic disorder' in the 'mental and behavioural disorders due to use of alcohol and psychoactive substance use' only accounts for around 10% of these admissions: the largest proportion appear to be coded as 'dependence syndrome'. Although we cannot rule out that this high proportion of admissions for substance misuse may be a coding-related problem, these data point to potentially very high use of in-patient resources for dependence problems.

A study by Fitzpatrick *et al* (2003) examined patient characteristics in inner London between 1988 and 1998 in a sample of about 200 patients at three time periods; their study found a higher rate for psychosis (around 50%), with depression, neurosis and substance misuse each accounting for a much smaller percentage of admissions (between 4% and 13%). In contrast, we found a low rate for psychosis and a relatively high rate for depression and anxiety. This is contrary to the idea that most psychiatric admissions in England are for psychotic illness (schizophrenia and related psychoses and mania combined accounted for less than 40% of the total admissions). The only area where the proportion of admissions for schizophrenia and related psychoses was higher than for depression and anxiety was London. Drawing together the findings of these different studies, it may be concluded that the higher proportion of admissions for depression and anxiety might be a national phenomenon that is not apparent in London.

Why does London appear to have a different admission pattern from the rest of the country? It is possible that this is due to higher levels of bed occupancy in some inner-city areas, particularly in London (Johnson *et al*, 1997; Ford *et al*, 1998), where the threshold for admission may be higher for people with depressive and anxiety disorders. This may also contribute to the lower than average admission rate in London (2.7 per 1000). Indeed, Hospital Activity Statistics for 1999/2000 show that the psychiatric 'short stay' bed occupancy percentages were higher for London (96.7%) than for England as a whole (90.5%) (Department of Health, 2001). However, the situation is not straightforward; the other area with a high admission percentage for schizophrenia was the North West of England, and this region had 'short stay' bed occupancies of 86.7% – below that for England as a whole. Data from the Department of Health for 1999/2000 show that London also has the highest rate of admissions under the Mental Health Act 1983 of all regions (1.79 per 1000), which may contribute to the different pattern of admissions in the capital (McCrone, 2003). London also has the highest percentage of Mental Health Act 1983 admissions being admitted to the independent sector (McCrone, 2003) and the highest percentage of admissions to independent medium secure facilities (Lelliott *et al*, 2001). There is almost certainly a supply-side factor, however, as London also has the highest number of available adult short-stay and long-stay beds per 100 000 of the population (McCrone, 2003).

It is not clear from our study whether such regional differences represent local psychiatric need, different thresholds for admission, variations in development of community services or supply-side differences in in-patient resources (service use and provision). Further research should investigate the configuration of services in the regions with the highest and lowest admission rates to see how different the patterns of service provision actually are. The service mapping development work of the University of Durham provides some relevant information on current services but not for the year studied (University of Durham, 2004). However, figures from this source for 2001 did show that the North West region (the region with the highest admission rate) had the lowest number of functioning assertive outreach teams but had reasonably low community mental health team case-load numbers per 100 000 of the population compared with other regions.

The excess of male over female admissions represents a reversal of the gender differences in psychiatric admission and bed occupancy rates seen prior to the 1980s and is confirmed by three recent analyses (Payne, 1995; Bartlett *et al*, 2001; Prior & Hayes, 2001). This result may have implications for acute wards, especially with regard to the National Service Framework (Department of Health, 1999) guidance for single-sex ward environments. The excess of male psychiatric admissions contrasts with the female excess of mental disorder – the second National Psychiatric Morbidity Survey (Office for National Statistics, 2000) showing the expected female excess in morbidity for all neurotic disorders, and a male excess only in personality disorders and drug and alcohol problems. Some regional differences were highlighted in the latter survey, such as higher prevalence rates for most symptoms in the North West and London for both men and women and in the Northern & Yorkshire region for men only, although none of these differences was robust. These are not reflected in the patterns of psychiatric admission reported here.

Length of stay

The high proportions of patients admitted for more than 90 days and 365 days are noteworthy, as is the finding that psychosis contributes to the largest proportion of these patients and the highest mean total

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bed occupancy. This may explain the general impression that wards are populated by patients with psychosis, when in fact most admissions are for depression and anxiety. Lelliott *et al* (1994) observed two particular subgroups of patients at opposite ends of the 16–64 years age spectrum in their study of 'new long stay patients': one predominantly young and male with psychosis, and the other old and female with affective disorder or dementia. In this analysis the highest percentage of male long-stay patients had a diagnosis of schizophrenia and related psychosis, and among these males aged 16–34 years were over-represented. The highest percentage of female long-stay patients was in the older age groups (45–64 years) and was accounted for mostly by depression and anxiety. It would be interesting to see if there were a decline in the number of long-stay patients with the introduction of initiatives such as assertive outreach and home treatment teams with an emphasis on early discharge.

The median length of stay (15 days) in this study is the same as the 15 days found by a study by Priest *et al* (1995) in their cohort of patients admitted to a 60-bed facility in central London over a 13-week period (although the figure for the London region in our study is slightly longer, at 18 days). Indeed, the long-stay proportions are consistently higher in London, which may reflect the comparative lack of residential services (MILMIS Project Group, 1995; Johnson *et al*, 1997).

Concluding remarks

The 2000 Consultation Paper on the National Beds Inquiry states:

> 'the pressure on beds appears to reflect a wider mismatch of provision and need. Within each local health community the requirement for acute mental health beds needs to be assessed in the context of the whole mental health system' (Department of Health, 2000).

The size and nature of the HES data-set analysed here provide a valuable picture of what is happening in English in-patient units and should be a key source of data informing changes to in-patient provision and care.

ACKNOWLEDGEMENTS

CLINICAL IMPLICATIONS

■ Contrary to belief and the findings of population morbidity surveys, psychiatric admissions are more common for men than for women, and for depression and anxiety than for psychosis.

■ Despite policy initiatives to provide alternatives to in-patient care, 1 in 11 patients remain in hospital for more than 3 months.

■ Regional differences both in rates of psychiatric admission and in length of stay require further investigation but may point to variations in service delivery or availability. The impact on patient outcomes is uncertain.

LIMITATIONS

■ Interpretation of diagnosis patterns must be treated with caution, as the accuracy of psychiatric diagnosis coding by Hospital Episode Statistics (HES) coders has not been evaluated.

■ Admission rates do not directly represent clinical need or morbidity differences, only the use of existing services.

■ The HES data include all psychiatric specialties, and therefore may not be totally applicable to general psychiatric units and may bias length of stay data.

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