SB: What are the risks of the clot macerator? Surely even small particles of thrombus can be detrimental?

JJ: The clot is broken down to particles of 8 µm or less, but I am sure that if a ventilation-perfusion scan had been taken afterwards areas of mismatch would have been seen. There were, however, no subsequent clinical symptoms or signs of pulmonary embolic disease.

JH: Studies with radiolabelled albumin have shown that particles of 30 µm diameter can pass through the lung without causing systemic complications.

SB: Why did you change the thrombolytic drug to alteplase when the studies on thrombolysis after myocardial infarction have shown a higher rate of haemorrhage with this than with streptokinase?

JJ: Indeed at high doses that is true, but for low doses in direct contact with thrombus there have been anecdotely fewer bleeding complications with alteplase, as would be expected given its greater theoretical thrombus specificity.

SB: What do you think was the cause of the initial thrombosis, a general thrombotic tendency or extrinsic compression of the superior vena cava by lymph nodes and secondary venous stasis?

NP: I think extrinsic compression is more likely.

SB: In that case, radiotherapy would seem the obvious treatment to start with.

AM: Why were two short and connected stents used rather than one longer one?

JJ: There is a greater radial force supplied by two shorter ones, although there is the problem of stenosis at the waist where the two join. A spiral stent has been devised to counteract this but it does not seem to be particularly advantageous.

SB: In a patient who has a tendency to clot and a foreign body in the vessel what is being done to prevent reocclusion?

JJ: The most important factor is ensuring good flow across the stenosis afterwards and therefore balloon dilatation to 20 mm was performed after insertion of the stent. Intravenous heparin was given for 48 hours after the procedure but there is nothing to suggest that long term anticoagulation is necessary if good flows and an adequate diameter are achieved.

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Patient characteristics and clinical caseload of short stay independent hospitals in England and Wales, 1992-3

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Abstract

Objective—To describe and quantify the patients and clinical activities of independent short stay hospitals.

Design—Retrospective survey of hospital records for sampled periods of one financial year and comparison with data from 1981 to 1986.

Setting—217 independent hospitals in England and Wales, 1992-3.

Main outcome measures—Distributions of sex, age groups, and areas of residence of patients, clinical procedures, financial provision.

Results—Data were obtained from 201 (93%) hospitals. An estimated 429 172 inpatients (7% more than 1986) and 249 531 day cases (an increase of 154%) from 1986 were treated in the year. The number of overseas patients was half that in 1986. Clinical case mix remained similar to 1986. Abortion remained the commonest procedure (13% v 19% in 1986). Lens operations, heart operations, endoscopies, and non-surgical cases showed the largest increases from 1986. Proportionately more overseas patients had abortions (30% v 12% for England and Wales residents) and they received 41% of coronary artery bypass grafting.

Three quarters of the patients were aged 15-64. The proportion of patients aged over 65 had changed little (19% v 17% in 1986). Estimated average bed occupancy was only 48%. Only one in 20 patients was treated under NHS contract; 90% of episodes were funded through private health insurance.

Conclusions—The demand for treatment in private hospitals continues to increase despite additional investment in the NHS, but the overseas market is falling. Overall, the range of clinical activity has changed little.

Independent hospitals in England and Wales have mainly performed elective surgery that does not require advanced technological support.^{1,2} Before the 1990 reforms of the NHS they managed three times more cases than NHS hospital pay beds.³ We investigated changes in their clinical activities and patients since 1986. In March 1993 there were 10 763 beds in 209 independent short stay hospitals⁴ compared with 9526 beds in 187 hospitals in December 1986,⁵ an increase of 11%. A total of 6724 beds (62%) were in 140 profit making hospitals and 4039 (38%) were in 78 hospitals with charitable status, compared with 53% and 47% respectively in 1986.

Method

We identified independent hospitals with operating theatres open at any time in 1992-3 from the lists of the Independent Health Care Association⁴ or the *Directory of Independent Hospitals and Health Services*.⁶ We collected information on all admissions and discharges from each hospital for a sample period, 1 April 1992 to 31 March 1993. For comparability we allocated the hospitals that provided data in 1986 the same data collection periods in 1992-3. For hospitals opened since 1986 the length of sample periods was set so that, based on the number of beds in the hospital, roughly 100 admissions would be sampled from each hospital. The time of year of sampling was set to obtain, within a region, a similar amount of data each month.

We estimated activity for the whole year by weighting the sample numbers according to the length of the sample period and time of year, correcting for the absence of data from 16 hospitals that were known to have been open for part of the year. Because of weighting and rounding of estimates the totals in the tables do not always equal the sum of the components.

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Results

In all, 217 hospitals were active for some or all of the year. Another seven hospitals originally identified were ineligible or had closed down. All but three hospitals had usable data available on their activity. These 214 contained 11 319 beds (mean 53, range 8-267). One hospital with 48 beds was missed from the study. The managers of 12 others (587 beds, mean 49) refused to cooperate. Thus data were obtained from 201 (93%) of the 217 hospitals.

From the sampled 30 185 records we estimated that 678 703 patients were treated as inpatients or day cases in the year. This was more than double the number in 1981 (323 440), and 35% more than in 1986 (503 260). Our estimate for the 31 Nuffield hospitals in England and Wales differed from the actual number by only 0.4%. Our estimated number of abortions was 4% less than the aggregated quarterly numbers in non-NHS hospitals in England and Wales reported by the Office of Population Censuses and Surveys.⁷

There were 429 172 (63%) inpatients, which was 7% more than in 1986 (401 920), and 249 531 (37%) day cases, 154% more than in 1986 (98 390).² A higher proportion of patients were United Kingdom residents (96%) than in 1981 (84%) and 1986 (91%) (table I). The number of overseas patients almost halved.

Nearly half the beds were in hospitals in the four Thames regions. There was a 10-fold difference

between the region with the highest and lowest level of provision (table II). The numbers of beds increased in all regions between 1986 and 1993 by an average of 11% (boundary changes distorted the distribution between North West Thames and North East Thames). Correspondingly, all regions showed increased rates of use by residents. The rate of use nationally rose by more than the increase in bed supply after 1986, largely because of day case surgery. Rates varied fivefold between the lowest and highest regions.

When women having maternity care or abortions were excluded, the age profile of patients was older in 1992-3 than previously: 56% were over 45 years in 1992-3 compared with 50% in 1981 and 1986, and 19% were over 65 years (table III). The aging of the hospital population partly reflects demographic trends, and government incentives to the retired to maintain health insurance probably increased demand modestly.

Apart from abortions, the clinical activity was still mainly elective surgery. Lens operations, endoscopic examinations, heart operations, and non-surgical treatments especially chemotherapy for cancer, showed the largest increases since 1986 (table IV). Although overall there were fewer overseas patients than in 1986, they accounted for 3746 (26%) of those having heart procedures, including 2622 (41%) coronary artery bypass grafts.

When the 14 hospitals whose main activity was termination of pregnancy were excluded the average bed occupancy was 48% (regional range 42%-60%) compared with 55% in 1986 (table II). Occupancy was 41% in hospitals with charitable status and 53% in hospitals run for profit.

Only one in 20 cases were funded by the NHS through contracting out (table V). This figure cannot be verified from NHS sources because the data are not available centrally. The method of payment was known for 96% of cases. After vasectomy and abortion cases were excluded (for comparability with previous surveys) more residents of England and Wales paid partly or wholly through health insurance than before

TABLE I—Estimated numbers of patients admitted to independent hospitals in England and Wales by country of residence

Country of residence	No of inpatients and day cases		
	1981 ¹	1986 ²	1992-3
England and Wales	287 015	457 370	651 673
Other countries in the United Kingdom	3 115	3 190	2 556
Republic or Ireland and Europe	30 456	26 020	13 742
Outside Europe	13 391	11 060	7 040
Not known	10 031	5 630	3 691
Total	344 008	503 260	678 703

TABLE II—Regional distribution of beds and use in independent short stay hospitals

Region	Beds/100 000 population*			Estimated No of admissions anywhere for residents of region (No/100 000 population)*			% Average daily bed occupancy†	
	31 December 1981*	31 December 1986	31 March 1993	1981 ¹	1986 ²	1992-3	1986 ²	1992-3
Northern	2.1	4.0	5.8	4 421 (142)	8 792 (285)	12 200 (396)	41	50
Yorkshire	7.6	12.7	15.4	18 919 (527)	26 158 (726)	36 836 (1006)	55	43
Trent	8.3	10.9	11.7	19 771 (431)	27 532 (594)	40 742 (867)	47	48
East Anglia	9.3	16.2	20.4	6 522 (345)	12 861 (646)	22 044 (1054)	70	47
North West Thames	54.8	35.3	60.2	34 990 (1007)	53 165 (1524)	75 847 (2130)	45	45
North East Thames	9.1	45.8	22.7	20 344 (541)	42 187 (1122)	62 813 (1672)	59	51
South East Thames	20.3	28.4	31.1	22 384 (622)	43 691 (1207)	59 780 (1622)	51	44
South West Thames	24.0	29.9	31.8	28 665 (971)	46 671 (1574)	62 656 (2073)	51	51
Thames regions	26.2	35.2	36.4	106 383 (772)	185 741 (1343)	261 096 (1861)	52	46
Wessex	8.5	20.3	24.1	15 073 (548)	33 391 (1161)	45 110 (1512)	53	56
Oxford	14.9	19.4	24.1	16 960 (728)	28 419 (1148)	40 456 (1580)	52	52
South Western	9.8	10.8	15.8	17 119 (558)	24 589 (774)	34 102 (1034)	58	60
West Midlands	6.6	12.0	15.8	29 367 (567)	48 356 (993)	66 694 (1269)	68	48
Mersey	11.8	13.3	17.7	13 662 (557)	18 447 (764)	34 696 (1441)	67	44
North Western	9.1	14.1	17.2	13 540 (335)	33 213 (832)	43 872 (1097)	70	53
Wales	6.7	9.7	8.9	11 742 (418)	14 195 (503)	16 737 (580)	40	42
England not otherwise specified				2 270		745		
All regions	13.3	18.9	21.4	275 752 (556)	461 666 (922)	655 350 (1286)‡	55	48

*Populations recorded by Office of Population Censuses and Surveys.⁸

‡Includes a pro rata proportion of the 3691 patients whose area of residence was not known (see table I).

†Excludes hospitals concerned wholly or mainly with termination of pregnancy.

TABLE III—Age distribution (percentages) of residents of England and Wales treated in independent hospitals (excludes maternity care and termination of pregnancy)

Age (years)	1981 ¹			1986 ²			1992-3		
	Male (n=83 909)	Female (n=117 224)	Total (n=201 133)*	Male (n=164 750)	Female (n=219 991)	Total (n=384 741)*	Male (n=250 272)	Female (n=317 359)	Total (n=567 631)*
0-14	12	6	8	11	6	8	9	5	7
15-44	36	47	43	36	47	42	33	42	38
45-64	34	31	33	35	31	33	37	36	37
≥ 65	18	16	17	19	16	17	21	17	19

*Sex or age not known in 7362 cases in 1981, 6235 cases in 1986, and 2411 cases in 1992-3.

TABLE IV—Estimated numbers of operations and procedures carried out in independent hospitals, inpatients and day cases

Main operation of procedure*	Total No (%) 1992-3	Residents of England and Wales		
		1981 ¹	1986 ²	1992-3
All known excluding abortion operations	572 104 (84.3)	206 920	381 605	557 451
Lens operations	15 875 (2.3)	3 935	8 491	15 356
Other eye operations	9 902 (1.5)	3 086	6 125	8 896
Tonsillectomy and adenoidectomy	13 031 (1.9)	9 229	12 115	13 092
Other ear, nose, and throat	31 880 (4.7)	12 811	24 789	31 784
Dental extraction	21 655 (3.2)	7 344	14 504	21 587
Coronary artery bypass graft	6 463 (1.0)	374	929	3 809
All other heart operations	7 604 (1.1)	234	2 902	6 379
Abdominal hernia repair	16 604 (2.4)	9 435	15 664	16 444
Major intra-abdominal	11 191 (1.6)	6 117	10 198	11 107
Haemorrhoidectomy and other anal or perianal surgery	8 715 (1.3)	5 483	6 562	8 595
Appendicectomy	1 947 (0.3)	1 694	2 350	1 947
Prostatectomy	9 802 (1.4)	2 803	4 585	9 756
Vasectomy	4 396 (0.6)	2 546	4 912	4 393
Circumcision	3 342 (0.5)	2 490	3 605	3 342
Dilatation and curettage	12 420 (1.8)	11 973	20 915	12 350
All hysterectomy	16 216 (2.4)	9 211	13 843	16 146
Division, ligation, occlusion of oviducts	1 925 (0.3)	4 035	2 819	1 827
Other gynaecological	31 492 (4.6)	6 629	11 071	31 069
Arthroplasty	12 787 (1.9)	6 328	10 080	12 637
Other orthopaedic	58 227 (8.6)	16 537	35 353	57 134
Ligation or stripping varicose veins	13 428 (2.0)	7 429	10 505	13 428
Plastic surgery	11 279 (1.7)	3 825	4 539	11 100
Other skin, subcutaneous	28 768 (4.2)	8 972	24 478	28 706
All endoscopic examinations	59 963 (8.8)	11 012	31 535	58 928
All other operations and procedures	84 935 (12.5)	36 496	64 446	82 878
No operation or procedure	78 257 (11.5)	16 930	34 290	74 712
Abortions	89 809 (13.2)	66 027	68 956	81 476
Not known	16 789 (2.5)	2 805	11 106	16 423
Total	678 703 (100)	275 752	461 666	655 350

TABLE V—Estimated types of contract for residents of England and Wales receiving care in private hospitals

Contract	No (%)
Private	617 876 (94.3)
NHS:	
Health authority	28 903 (4.4)
General practitioner fundholder	3 079 (0.5)
Not known	5 492 (0.8)
Total	655 350 (100)

(90% of males and 86% of females; table VI). Nevertheless, nearly 70 000 patients paid for themselves or were paid for. Proportionately more of the people past the retirement age paid for themselves. Even so, four out of five men and nearly two in every three women over 75 paid through insurance.

Most patients (641 649 of 655 350) (97.9%) were discharged home, which reflects the large amount of elective treatment. The number of patients who died was low (2647, 0.4%) as these hospitals do not provide much terminal care, and only 131 patients were transferred to NHS hospitals.

Discussion

Despite the NHS reforms, waiting list initiatives, and investment in day surgery, independent hospitals treated appreciably more patients in 1992-3 than they had six years earlier and dealt with a similar range of conditions. However, their capacity was considerably underused. Staffing resources may be a limiting factor, and this factor may increase if corporate loyalty to NHS trusts grows among consultants. The number of

TABLE VI—Estimated number of treatment episodes with known method of finance in independent hospitals for residents of England and Wales. Abortions and vasectomies were excluded

Age (years)	1981		1986		1992-3	
	Estimated No with known method of finance	% Self financed	Estimated No with known method of finance	% Self financed	Estimated No with known method of finance	% Self financed
0-14:						
Male	8 538	26.1	16 534	12.4	21 939	7.7
Female	6 094	24.1	11 847	13.1	15 455	9.7
15-44:						
Male	24 318	23.7	50 192	16.2	76 255	9.4
Female	46 556	30.1	96 995	24.2	131 596	15.3
45-64:						
Male	23 735	20.0	52 023	14.9	88 227	7.7
Female	31 921	23.9	63 066	18.4	111 088	9.5
65-74:						
Male	8 057	35.0	18 592	24.6	31 761	13.7
Female	7 705	43.5	17 907	32.8	27 566	16.3
≥ 75:						
Male	3 541	38.2	10 000	33.3	17 693	20.4
Female	6 102	58.2	14 150	49.1	23 323	29.7
All:						
Male	68 189	24.9	147 341	17.6	235 875	10.0
Female	98 377	30.8	203 965	24.3	309 028	14.1

NHS consultants in England and Wales in the acute specialties with higher potential for private practice (anaesthetics, general, cardiothoracic, paediatric, plastic, and orthopaedic surgery; neurosurgery; ophthalmology; obstetrics and gynaecology; and urology) expanded by 12% between 1986 (5805) and 1992 (6709) (Department of Health, personal communication), while the caseload of independent hospitals rose by 35%.

Independent hospitals are likely to continue to operate below capacity because the number of people covered by private medical insurance has stopped rising,¹⁰ the waiting times for NHS treatment are not rising, and hospital trusts want to capture public and private sector business. Furthermore, this survey showed little evidence that NHS purchasers, the first general practitioner fundholders, and local health authorities were contracting with independent hospitals, nor that independent hospitals had been creating niches among certain patient groups or for certain treatments.

Geographical differences in use remain wide, mirroring levels of uptake of private health insurance. Higher rates of provision and use in the Thames regions may reflect more NHS investment going outside London and the reduction of NHS beds in London.

The demand for treatment from overseas patients fell, except for some technologically advanced procedures. Perceptions of the cost or quality of care in the British private healthcare sector may have changed, and provision of specialist services in other countries may have grown.

Data on recent NHS pay bed activity are not yet available so total private sector activity relative to the public sector and NHS paybeds' share of it cannot be calculated. In the first year of NHS trusts, 1990-1, an estimated 81 366 patients used pay beds in NHS hospitals in England, 21 766 of them as day cases (Department of Health, personal communication). In the face of growth in activity of independent hospitals NHS pay beds probably remained minority providers of private acute care.

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