Contemporary Themes

Manpower and workload in adult renal medicine in the United Kingdom 1975-82

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The Royal College of Physicians' Committee on Renal Medicine and the Executive Committee of the Renal Association recently conducted a survey of manpower and workload in adult renal medicine in the United Kingdom. This report describes the findings of the survey and compares them with a similar study conducted in 1975.¹

Present survey

MANPOWER

A questionnaire was sent to the directors of all NHS renal units in the United Kingdom providing renal replacement therapy—that is, dialysis with or without transplantation. All such units in the United Kingdom submit yearly accounts of their activity to the registration committee of the European Dialysis and Transplant Association, thus facilitating their identification. The questionnaire elicited details of present senior and junior medical staffing, the proportion of time spent practising nephrology, the retirement dates of senior staff, and new posts planned. Medical associate specialists or clinical assistants were included. Details were also requested of senior and junior academic posts, funded either by the University Grants Committee or by other sources, together with individuals currently in research posts, however funded, who planned a career in nephrology in the United Kingdom. The completion date for the questionnaire was 31 March 1982.

Some physicians practise nephrology outside renal units that provide full renal replacement therapy, as defined above, and considerable efforts were made to identify these doctors. A well known nephrologist in each NHS region was asked to supply details of physicians practising part time or whole time nephrology outside recognised renal units in that region. Individuals thus identified were then sent a questionnaire designed to establish the proportion of their time spent practising nephrology and the special services offered within that practice. Dates of retirement and information about the nature of the post to be created by their retirement were also requested. The list of physicians so identified was then circulated to all directors of renal units with the request that omissions or errors should be notified.

Any reply considered to be ambiguous or uncertain was checked by personal contact with the physician concerned. In the following

analysis an individual holding both NHS and university appointments was included in only one category, after consultation with the unit concerned.

The data used for the 1975 Renal Association survey were re-examined and any anomalies checked personally with the nephrologists concerned.

WORKLOAD

Assessment of workload was limited to the provision of dialysis and transplantation, and this activity was obtained from the yearly reports of the Registration Committee of the European Dialysis and Transplant Association. Details of the dialysis and transplantation activity in each NHS region during the years ending 31 December 1975 and 31 December 1981 were related to the manpower data obtained by the 1975 Renal Association survey and by the present study. We emphasise that this definition of nephrological workload ignores the care of patients with acute renal failure and the management of the many patients with kidney disease which has not progressed to end stage renal failure.

Results

MANPOWER

Tables I and II present details of the population and nephrological manpower for each NHS region in 1975 and 1982. Changes in regional populations were very small. The number of NHS consultants in post rose from 71 in 1975 to 87 in 1982, an increase of 22.5%, whereas the number of senior registrars rose from 15 to 29 (93.3%). The percentage increase in the number of senior registrar sessions in nephrology was not quite as large (77.4%), but none the less a more rapid expansion of the senior registrar grade compared with consultant staff was apparent. The increases in registrar and senior house officer grades between 1975 and 1982 were also greater than that in the consultant grade, but the percentage increases in nephrological sessions provided were only slightly greater than that for the consultant staff. This indicates greater participation by senior house officers and registrars in rotation schemes in which nephrology was only one part. In addition to the manpower described in tables I and II, the survey also identified 22 research fellows who planned careers in renal medicine in Britain.

The sessions provided by senior university staff—that is, senior lecturers and above—increased by 42% and those provided by lecturers rose by 52%. Tables I and II show that total junior NHS and university staff increased from 148 in 1975 to 207 in 1982 (39.9%), although the increase in sessions provided was less (29.3%). Total senior NHS and university staff rose by 23, an increase of 24%, and their sessional contribution by 148, an increase of 26%.

The figure shows the relation between population and manpower (represented by the total number of doctor sessions in nephrology per week) in each region in 1975 and 1982. The data for 1975 were replotted from the previous survey¹ and an error in the figures for Wessex corrected. In most regions manpower increased during this period and the correlation coefficient for the relation between manpower and workload increased from $r=0.582$ in 1975 to $r=0.703$ in 1982. This

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TABLE 1—Senior medical staff in nephrology

Region	Population (millions)		No of consultants (sessions/week)		No of professors, readers, senior lecturers (sessions/week)		Total No of senior staff (sessions/week)		No of sessions per million population	
	1975	1982	1975	1982	1975	1982	1975	1982	1975	1982
North East Thames	3.7	3.7	8 (64)	9 (64)	6 (23)	2 (13)	14 (87)	11 (77)	23.3	20.8
North West Thames	3.5	3.5	4 (35)	5 (30)	3 (15)	5 (24)	7 (50)	10 (54)	14.4	15.4
South East Thames	3.6	3.5	10 (67)	11 (73)	1 (4)	2 (14)	11 (71)	13 (87)	19.6	24.9
South West Thames	2.9	3.0	2 (8)	2 (12)			2 (8)	2 (12)	2.8	4.0
Northern	3.1	3.1	5 (43)	7 (44)	1 (4)	3 (6)	6 (47)	10 (50)	15.0	16.1
North Western	4.1	4.0	4 (24)	7 (42)	1 (3)	1 (2)	5 (27)	8 (44)	6.6	11.0
Mersey	2.5	2.4	3 (15)	3 (21)			3 (15)	3 (21)	6.0	8.8
West Midlands	5.2	5.2	9 (42)	7 (36)	1 (2)	3 (17)	10 (46)	10 (53)	8.5	10.2
Yorkshire	3.6	3.6	4 (29)	5 (41)			4 (29)	5 (41)	8.1	11.4
Trent	4.5	4.5	5 (34)	7 (48)	1 (3)	1 (5)	6 (37)	8 (53)	8.1	11.8
Oxford	2.2	2.3	1 (11)	1 (11)	1 (4)	1 (4)	2 (15)	2 (15)	6.9	6.5
East Anglian	1.8	1.9	2 (12)	3 (15)			2 (12)	3 (15)	6.8	7.9
Wessex	2.6	2.7	1 (8)	1 (8)	2 (14)	2 (14)	3 (22)	3 (22)	8.5	8.1
South Western	3.1	3.0	3 (15)	4 (31)			3 (15)	4 (31)	4.8	10.1
Wales	2.8	2.8	3 (13)	3 (13)	1 (4)	1 (4)	4 (17)	4 (17)	6.1	6.1
Northern Ireland	1.5	1.5	2 (22)	3 (33)			2 (22)	4 (38.5)	14.7	25.7
Scotland	5.2	5.2	5 (32)	9 (57.5)	5 (25)	8 (35)	10 (57)	17 (92.5)	10.9	17.8
Total	55.9	55.9	71 (474)	87 (579.5)	23 (101)	30 (143.5)	94 (575)	117 (723.0)		
Increase				16 (105.5)		7 (42.5)		23 (148.0)		
% Increase				22.5 (22.2)		30.4 (42.1)		24.5 (26.0)		

indicates a tendency for the discrepancies between manpower and population apparent in 1975 to have decreased, but the increase in the correlation was not statistically significant ($z=0.550$; $p>0.05$).

Thirty nine physicians were identified who were working in nephrology outside recognised renal units compared with 12 such physicians recorded in the 1975 survey. These 39 physicians estimated that they provided a total of 78.5 sessions a week in nephrology.

WORKLOAD

Table III shows the workload in providing renal replacement therapy in 1975 and 1981. The term "total patient stock" refers to all patients with chronic renal failure receiving treatment either by regular dialysis (of all types) or by transplantation. Table III also records new patients beginning renal replacement therapy and transplant operations performed during the two years concerned. Total patient stock increased by 4335 (118%) from 1975 to 1981. A total of 1421 new patients were included in renal replacement programmes in 1981 compared with 897 in 1975, an increase of 58%. The yearly transplantation rate was also greater in 1981 than in 1975, but the percentage increase (33%) was smaller than the increases in total patient stock and in new patients starting replacement therapy. Table III also relates total patient stock to population in each region.

Discussion

This survey identified 29 senior registrars training in nephrology in 1982, together with 15 lecturers in university departments and 22 research fellows planning careers in renal medicine in Britain. In the five year period 1983-7 inclusive only two of the 87 existing consultants in renal medicine will reach the retirement age of 65. In addition, two of the 39 consultants practising nephrology outside recognised renal units and three senior university staff are due to retire. In the 10 year period 1983-92 corresponding figures for expected retirements are eight consultant nephrologists working in recognised renal units, seven consultants working outside these units, and five senior university staff. There is no certainty that the retiring university staff will be replaced by doctors specialising in nephrology; indeed, it is likely that many will not. Similarly, retiring consultants who practised nephrology outside recognised renal units may not be replaced by doctors with a similar special interest. We emphasise that these figures take no account of early retirement or death in post and therefore underestimate the number of posts that will become vacant. Moreover, no account is taken of new posts that will be created in the periods concerned. Nevertheless, the present imbalance between the number of junior staff in training at senior registrar level and the likely number of vacancies, particularly in the next five years, is obvious and disturbing.

Relation between population and total number of doctor sessions a week provided in each region in 1975 and 1982. Change in manpower for each region between 1975 and 1982 indicated by arrow. Regression lines do not differ significantly with respect to slope, elevation, or residual variance (variance not explained by regression: $p>0.1$); nor is rise in correlation coefficient statistically significant ($z=0.550$; $p>0.05$).

The expansion of the workload in nephrology between 1975 and 1981 shown in this study indicates clearly that the solution to this problem is the creation of more consultants in the specialty. During this interval the total stock of patients receiving renal replacement therapy rose by 118%, whereas the number of NHS consultants in nephrology increased by only 22.5%. Moreover, the yearly rate at which new patients were accepted for dialysis or transplantation was 58% higher in 1981 than in

TABLE II—*Junior medical staff in nephrology*

Region	Population (millions)		No of senior registrars (sessions/week)		No of registrars (sessions/week)		No of senior house officers (sessions/week)		No of medical assistants (sessions/week)		No of lecturers (sessions/week)		Total No of junior staff (sessions/week)		No of sessions per million population	
	1975	1982	1975	1982	1975	1982	1975	1982	1975	1982	1975	1982	1975	1982	1975	1982
North East Thames	3.7	3.7	2 (22)	4 (30.5)	3 (33)	4 (44)	7 (77)	8 (68)	1 (11)	2 (12)	2 (13)	1 (10)	15 (156)	19 (164.5)	41.8	44.5
North West Thames	3.5	3.5	2 (20)	2 (11)	1 (11)	4 (19.5)	1 (11)	4 (20.5)	2 (7)	2 (12)	2 (7)	2 (12)	6 (49)	12 (63)	14.1	18.0
South East Thames	3.6	3.5		2 (16.5)	4 (35)	6 (36.5)	7 (71)	10 (95)	3 (15)	6 (20)	1 (1)		15 (122)	24 (168)	33.7	48.0
South West Thames	2.9	3.0	1 (2)		1 (3)	1 (5.5)	1 (9)	2 (18)	1 (11)	1 (8)			4 (25)	4 (31.5)	8.6	10.5
Northern	3.1	3.1			3 (28)	6 (18.5)	4 (39)	7 (60)	2 (14)	2 (5)	1 (7)	2 (18)	10 (88)	17 (101.5)	28.1	32.7
North Western	4.1	4.0	2 (5)	4 (15)	1 (11)	3 (22)	2 (7)	6 (28)	3 (16)	4 (17)		1 (9)	8 (39)	18 (91.5)	9.5	22.9
Mersey	2.5	2.4			1 (5)	1 (6.5)	2 (20)	3 (27)	4 (18)	1 (10)			7 (43)	5 (43.5)	17.1	18.1
West Midlands	5.2	5.2		1 (5.5)	3 (17)	4 (27.5)	7 (50)	8 (59)	1 (2)			1 (7)	11 (69)	14 (99)	13.3	19.0
Yorkshire	3.6	3.6		3 (14)	3 (33)	4 (38)	3 (33)	6 (58)					6 (66)	13 (110)	18.4	30.6
Trent	4.5	4.5	1 (7)	3 (21.5)	4 (16)	6 (37)	4 (30)	6 (35)	2 (4)	1 (2)			11 (57)	16 (95.5)	12.6	21.2
Oxford	2.2	2.3			1 (11)	2 (12)	2 (20)	3 (24)				1 (2)	3 (31)	6 (38)	14.2	16.5
East Anglian	1.8	1.9		2 (11)	2 (6)	2 (6.5)	3 (28)	2 (16.5)					5 (34)	6 (34)	19.3	17.9
Wessex	2.6	2.7	2 (10)	2 (10)	2 (20)	2 (20)	1 (10)	1 (10)					5 (40)	5 (40)	15.4	14.8
South Western	3.1	3.0	1 (11)	1 (11)	1 (5)	1 (3.5)	6 (40)	7 (62.5)	4 (42)	5 (43)			12 (98)	14 (120)	31.3	40.0
Wales	2.8	2.8			1 (5)	2 (11)	3 (13)	2 (9.5)	1 (3)	2 (8)	2 (11)	3 (15)	7 (32)	9 (43.5)	11.6	15.5
Northern Ireland	1.5	1.5	1 (11)	1 (11)	1 (11)	1 (11)							2 (22)	2 (22)	14.7	14.7
Scotland	5.2	5.2	3 (16)	4 (27.5)	8 (66)	9 (76)	7 (40)	6 (53)			3 (20)	4 (17)	21 (142)	23 (173.5)	27.2	3.4
Total	55.9	55.9	15 (104)	29 (184.5)	40 (316)	58 (394.0)	60 (498)	81 (644.0)	22 (136)	24 (125)	11 (59)	15 (90)	148 (1113)	207 (1439.0)		
Increase				14 (80.5)		18 (78.0)		21 (146.0)		2 (-11)		4 (31)		59 (326.0)		
% Increase				93.3 (77.4)		45.0 (24.7)		35.0 (29.3)		9.0 (-8.1)		36.4 (52.5)		39.9 (29.3)		

TABLE III—*Workload in renal replacement therapy*

Region	Population (millions)		Total patient stock		New patients		Transplant operations		Total patient stock per million population	
	1975	1981	1975	1981	1975	1981	1975	1981	1975	1981
North East Thames	3.7	3.7	456	837	92	119	65	73	123	226
North West Thames	3.5	3.5	355	558	59	79	56	50	101	159
South East Thames	3.6	3.5	417	917	132	147	113	142	116	262
South West Thames	2.9	3.0	39	114	13	37	2	14	13	38
Northern	3.1	3.1	306	557	66	91	38	34	99	180
North Western	4.1	4.0	160	427	39	81	34	37	39	107
Mersey	2.5	2.4	133	312	33	34	34	40	53	130
West Midlands	5.2	5.2	244	601	68	117	64	69	47	116
Yorkshire	3.6	3.6	168	390	50	80	23	37	47	108
Trent	4.5	4.5	241	653	78	138	36	69	54	145
Oxford	2.2	2.3	182	367	34	59	28	39	83	160
East Anglian	1.8	1.9	168	256	17	74	12	49	35	95
Wessex	2.6	2.7	90	256	32	55	47	40	93	191
South Western	3.1	3.0	137	336	37	66	17	33	44	112
Wales	2.8	2.8	176	333	50	60	23	41	63	119
Northern Ireland	1.5	1.5	86	217	17	35	16	24	57	145
Scotland	5.2	5.2	312	768	80	149	50	86	60	148
Total	55.9	55.9	3670	8005	897	1421	658	877		
Increase				4335		524		219		
% Increase				118		58		33		

1975. Data collected by the Registration Committee of the European Dialysis and Transplant Association have repeatedly shown how inadequate is the provision of renal replacement therapy in Britain compared with that of many other developed countries. In 1982 no fewer than 14 other European countries treated more patients with renal failure per million population than did the United Kingdom,² yet there is no evidence that the incidence of renal failure is lower in this country. Moreover, the most recent report by the Registration Committee of the European Dialysis and Transplant Association shows that France, West Germany, and Italy have roughly three, four, and six times as many renal centres respectively as the United Kingdom, for broadly comparable populations.² The 117 total senior staff and 207 total junior staff in nephrology in the United Kingdom contrast with 518 full time and 400 part time nephrologists in France (C Jacobs, personal communication, 1983).

There appears, therefore, to be a strong case for a major expansion of renal services in the United Kingdom, but the

associated expense of dialysis technology means that the appointment of a consultant nephrologist to a new post outside existing renal units requires substantial funding. Delegation of this duty to regional health authorities within their present budgets as presently proposed is unrealistic.

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