Current topics

Paediatric manpower

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SUMMARY Two investigations of paediatric manpower in England, Wales, and Northern Ireland were carried out, each using a different method. The first survey located registrars and senior registrars and checked on their occupational status 3 years later in order to see which ones had been promoted. Loss factors—such as emigration, retirement for personal reasons, part-time training, or transfer to general practice, community paediatrics, or other medical specialties—were examined closely. The second survey was a cross-sectional analysis of the entire paediatric establishment. It examined in particular the distribution of consultants and registrars. Using figures from survey 2 and loss factors from survey 1, a model of the paediatric career structure could be constructed. This showed that the present career pyramid would be unable to absorb the current number of registrars in training. There is an urgent need for a comprehensive registration scheme for registrars, especially those with honorary contracts, who are not currently included in official records. Paediatrics is unique in having a high proportion of women for whom there is little opportunity of reconciling career aspirations with family commitments.

Perhaps the most intractable problem facing the National Health Service (NHS) is that of medical manpower. The issues have been debated since 1979¹ and the controversy continues with widely differing views. The report of a parliamentary select committee² (the Short report) recommends substantial expansion of the consultant grade in proportion to its junior staffing. Although this recommendation is supported by the Hospital Junior Staff Craft Committee of the British Medical Association³ it is strongly opposed by its Consultant's Committee.⁴

Two surveys confined to paediatric manpower are presented. They add new information to, and illustrate shortcomings within, the official data on medical manpower that are published periodically in *Health Trends*.^{5–7} Ideas pertinent to a career structure and to the balance of the grades in the light of the findings of the surveys are explored.

Survey 1

Registrar posts as at 1 September 1977 were located and the incumbents were traced in September 1980. With the help of the Royal College of Physicians 154 approved registrar posts in England, Wales, and Northern Ireland, plus 19 other combination posts considered mainly paediatric, were found. Many teaching hospitals and children's hospitals had not

sought approval from the Royal College of Physicians for jobs. Several discrepancies were apparent between lists from the Royal College of Physicians and those acknowledged by hospital personnel departments.

Survey 2

A questionnaire was sent to every consultant paediatrician in England and Wales known to have clinical responsibilities. Personal information and details of junior staff (including honorary and research) as at September 1980 were sought. Tenacious follow-up ensured that a complete survey of the paediatric establishment was achieved (clinical assistants and non-clinical research workers were excluded).

Findings

These are presented in tabular form, each survey providing a different facet of information as well as certain complementary information.

A total of 190 registrars and 84 senior registrars were located in survey 1, and details of their appointments in 1977 are shown in Table 1. The many male registrar non-responders were essentially overseas graduates whose whereabouts could generally be verified through the General Medical Council.

HM(69)6 followed by PM(79)3 relate to Department of Health and Social Security personnel memoranda concerned with opportunities for part-time training in the NHS for doctors and dentists with domestic commitments, disability, or ill-health. In essence they refer to posts suitable for women doctors.

The development of the careers of these doctors from 1977 to 1980 is shown (Table 2). Fifty-two (27%) registrars and 45 (54%) senior registrars had been promoted in paediatrics while 93 (49%) registrars and 21 (25%) senior registrars had left paediatrics.

Table 1 (Survey 1). Number of registrar posts compared with DHSS figures (published in *Health Trends*)

	Men	Women	Totals	Health Trends*
Registrar	108 (53)	42 (13)		
Honorary registrar	11 (5)	7 (6)		
†HM (69)6 registrar grade		22 (4)		
	119 (58)	71 (23)	190‡	231
Senior registrar	45 (8)	16 (4)		77
Honorary senior registrar	15 (4)	6 (5)		47
†PM (79)3 senior registrar grade		2		
	60 (12)	24 (9)	84‡	124

*Taken from *Health Trends*.⁵

Figures in brackets indicate doctors located who did not respond but on whom information was available from other sources.

†Part-time training schemes for women doctors.

‡Other posts (senior registrar = 12; registrar = 7) were located but incumbent unknown from available sources; excluded from tables.

Table 2 What were the 1977 registrars doing 3+ years later (survey 1)

	Registrars		Senior registrars	
	Men (n = 119)	Women (n = 71)	Men (n = 60)	Women (n = 24)
Promoted in paediatrics	40 (34%)	12 (17%)*	35 (58%)	10 (42%)*
Acting up (not substantive)		2 (3%)		
Same grade in paediatrics	10 (8%)	14 (20%)*	8 (13%)	8 (33%)*
In general practice	11 (9%)	5 (7%)	1 (2%)	1 (4%)
In community paediatrics	2 (2%)	12 (17%)*	1 (2%)	2 (8%)
Retired (temporary/permanent)		6 (8%)		
Demoted or changed speciality at lower grade	2 (2%)	1 (1%)		
In allied or other speciality at same grade or above	3 (3%)		2 (3%)	2 (8%)
Overseas (see Table 7)	40 (34%)	11 (16%)	12 (20%)	
Information missing	11 (9%)	8 (11%)	1 (2%)	1 (4%)

Square brackets indicate proportion of part-time women doctors, included in figures marked with an asterisk.

Men and women were promoted in the ratio of 2 to 1 (34% compared with 17%).

The population studied in survey 2 is shown in Tables 3 and 4; the national breakdown of several factors is shown in Table 3, and the overall regional distribution in Table 4.

Consultant appointments in the NHS until January 1980 were whole time equal to 11 sessions, or maximum part time equal to 9 sessions. In January 1980 sessions (9, 10, or 11) were determined by contractual changes made with regard to earnings from private practice. Consultants employed at several hospitals would assemble their sessions to reach whole-time or maximum part-time equivalent.

In Table 3 full time refers to whole-time or maximum part-time posts while part time refers to persons working fewer than 9 sessions. Thus 97% of consultants were full time (82% of these working the full 11 sessions and only 15% in private practice).

Ten per cent of senior registrars and 6% of registrars were part time; all were women.

Most (80%) senior registrars are based in teaching hospitals; the remainder work in district hospitals linked to teaching hospitals. Most consultants in non-teaching hospital posts can thus be seen at best to have only a share in a registrar (consultant: registrar ratio = 0.6), while his or her counterpart in the teaching hospital has the additional share of a highly experienced senior registrar (consultant: registrar ratio 1.1).

About one-third of all registrars and senior registrars are women. At consultant level the proportion is only one-sixth. Women working part time are included in these numbers. It must be stressed that HM(69)6 and PM(79)3 posts relate to personal posts, supernumary, and not distinguishable in establishment figures (Table 5).

Three years later 8% of UK-trained registrars and

Table 3 Survey 2 population (England and Wales only, September 1980) (524 questionnaires sent, 520 (99.2%) replied)

	Consultants	Senior registrars	Registrars
Paid NHS	423 (81%)	117 (69%)	225 (86%)
Honorary NHS	101 (19%)	52 (31%)	36 (14%)
Totals	524	169	261
Men	442 (84%)	118 (70%)	155 (59%)*
Women	82 (16%)	51 (30%)	72 (28%)
Full-time contract	510	152	245
Part-time contract	14‡	17	16
Teaching hospitals	239 (46%)	137 (81%)	136 (52%)
Consultants: registrar ratio†	→ 1.1		
Non-teaching hospitals	285 (54%)	32 (19%)	125 (48%)
Consultants: registrar ratio†	→ 0.6		

* Plus 34 (13%) of uncertain gender.

† Registrars = total of senior registrars + registrars.

‡ Includes 3 male consultants.

Table 4 Regional distribution of paediatric staff

Regional Health Authority	Consultants	Senior registrars	Registrars	Population <15 years × 1000	Consultants per 100 000 population	Total registrars* per 100 000 population
Northern	37	9	21	666.9	5.5	4.5
Yorkshire	38	10	10	776.2	4.9	2.6
Trent	40	16	24	995.1	4.0	4.0
East Anglia	15	4	12	398.7	3.8	4.0
NW Thames	45	15	34	710.6	6.3	6.9
NE Thames	60	36	33	764.0	7.9	9.0
SE Thames	44	13	14	733.3	6.0	3.7
SW Thames	21	4	9	591.4	3.6	2.2
Wessex	24	5	9	549.9	4.4	2.5
Oxford	22	12	11	472.6	4.7	7.0
South Western	25	9	12	651.3	3.8	3.2
West Midlands	52	12	21	1143.8	4.5	2.9
Mersey	28	7	18	543.2	5.2	4.6
North Western	44	10	22	884.0	5.0	3.6
Welsh	29	7	11	591.0	4.9	3.0
Total	524	169	261	10,472.0	5.0	4.1
Health Trends totals for September 1980 ⁶	519	133	242			

*Registrars = total of senior registrars plus registrars.

senior registrars had gone overseas. Of the overseas-trained doctors during the same period 42% of registrars and 25% of senior registrars were still here (Tables 6 and 7).

Table 8 shows that there are few part-time women consultants even though one-third of the senior registrars are women who work part time, and even more had expressed a desire to work part time.

It can be seen (Table 9) that for male registrars 52% of the posts yield 83% of the promotions, the other 48% of posts (non-teaching) yield 17% of the promotions, a ratio in favour of teaching hospitals of 4:1.

Table 5 Information on ratio of sexes in paediatric staff all ratios male: female

	Survey 1 (September 1977)	Health Trends (September 1978)	Health Trends (September 1980)	Survey 2 (September 1980)
Consultants		6.2:1	5.1:1	5.4:1
Senior registrars	2.5:1	2.2:1	2.3:1	2.3:1
Registrars	1.7:1	1.9:1	2.0:1	2.2:1
Senior house officers		1.8:1	1.7:1	

Table 6 How many doctors trained outside the UK

	Survey 1 (1977)		Survey 2 (1980)	
	Men	Women	Men and women	
Consultants				31 (6%) (n = 524)
Senior registrars	7 (12%) (n = 60)	1 (4%) (n = 24)	8 (10%) (n = 169)	12 (7%) (n = 169)
Registrars	51 (43%) (n = 119)	21 (30%) (n = 71)	72 (38%) (n = 261)	66 (25%) (n = 261)

The date for retirement shown (Fig. 1) is that stated by each consultant; some opted for early retirement at 60 while the normal age of retirement is currently 65 years. This yields a rate of about

Table 7 How many doctors were working overseas > 3 years later (survey 1)

	Men	Women	Totals
Senior registrars			
UK trained	6/53 (11%)	0/23	6/76 (8%)
Overseas trained	6/7 (86%)	0/1	6/8 (75%)
Registrars			
UK trained	7/68 (10%)	2/50 (4%)	9/118 (8%)
Overseas trained	33/51 (65%)	9/21 (43%)	42/72 (58%)

Table 8 How many female doctors work part time?

	Survey 1		Survey 2 1980
	1977	1980-81	
Consultants			11/82 (13%)
Senior registrars	7/24 (29%)	8/24 (33%)	17/51 (33%)
Registrars	29/71 (41%)	27/71 (38%)	16/72 (22%)
Others expressing wish to do part time		4/71 (6%)	

Table 9 Which registrars are promoted?

	Number promoted*	Of those promoted, number from non-teaching hospital posts
Survey 1		
Men	40/119 (34%)	7/40 = (17%)
Women	12/71 (17%)	1/12 = (8%)
Survey 2 (Table 3)		
Source of registrars	Teaching hospital 52%	Non-teaching hospital 48%

*See Table 2.

10 posts a year vacated until 1994. Thereafter retirement vacancies will increase up to 30 posts a year.

Fig. 1 Consultant paediatrician retirements 1981–2012.

- a See Table 5. b See Table 2.
c See Table 8, an average figure of 25% is used.
d It is assumed that a registrar takes 3 years before reaching senior registrar 'readiness' and that part-timers take twice as long.

Fig. 2 Model for a paediatric career structure, registrar to senior registrar.

- a See Table 5. b See Table 2.
c See Table 8, a figure of 33% is used.
d It is assumed that a senior registrar takes 4 years before reaching consultant 'readiness' and that part-timers take twice as long.
e *Health Trends*⁶ figures quoted—but more accurately shown in Fig. 1.
f Suggested doubling in next 15 years.⁸

Fig. 3 Model for a paediatric career structure, senior registrar to consultant.

The starting totals of 261 for registrars and 169 for senior registrars are an exaggeration of the true field, as not all honorary posts are held by doctors intending a paediatric career. The loss factors are inaccurate too, in that in survey 1 many honorary posts were missed. Fig. 2 shows the pattern for progression from registrar to senior registrar, indicating a total of 70 registrars ready each year to complete for senior registrar vacancies. Fig 3 shows the pattern for progression from senior registrar to consultant. Annual losses yield a 'readiness' figure of 37 senior registrars a year.

The expansion of the consultant grade in paediatrics has been 3.8% for 1977–78, 5.3% for 1978–79, 5.1% for 1979–80 (figures from *Health Trends*). The Secretary of State for Health and Social Services mentioned a figure of 100% expansion in the consultant grade during a 15-year period.⁸ In paediatrics this would mean, using Fig. 3, 524 posts in 15 years—that is 35 posts a year.

Discussion

The number of consultants in survey 2 (Table 4) closely approximates to that published in official lists,⁶ but there is a disturbing discrepancy in the number of senior registrars (27%) and registrars (8%). Total identification of honorary posts almost certainly accounts for this discrepancy and the failure to identify such posts by way of official channels explains many of the gaps in survey 1.

Honorary posts may be occupied by doctors passing through paediatrics, by doctors working permanently in posts linked to paediatrics, by part-timers, by visitors from abroad, and by those pursuing a conventional paediatric training.

The base numbers used in Figs 2 and 3 thus exaggerate the true paediatric manpower available and the loss factors inserted in the diagram are variously biased by the missing 'honoraries'. The model is developed to illustrate the elements of a manpower equation.

There is an urgent need to devise a system of regular identification of doctors in honorary posts. Their service work, teaching, and research commitments, and career intentions need to be quantitated. This information could be stored confidentially in a computer, separate from information concerning NHS staff.⁹ A complete picture of the current medical staffing state could thus be made available at any time and easily be updated. If junior doctors would agree to register their career aims at an early stage, more accurate predictions of prospects could be made available by use of a model similar to that demonstrated.

Women are seriously under-represented in the consultant grade compared with training grades (Table 5). The need for part-time training and part-time consultancies has to be urgently resolved. (Financial restraints inevitably squeeze out HM(69)6 and PM(79)3 posts.) No manpower decision can ignore the huge numerical factor, regardless of other considerations. Official data fail to identify part-timers separately and the information from the current surveys throws fresh light on the career development (or lack of it) of part-timers. Paediatrics is second only to closely allied community work as the preferred career choice for women doctors.¹⁰ Eight medical assistants, eminent female paediatricians, were located during the course of survey 1. They are not included in the analyses. Paediatrics should be the first specialty to resolve these anomalies for women doctors. An extensive network of part-time consultancies would seem the only just and practical solution.

An analysis of responders in survey 1 showed that 43 (90%) of 48 male senior registrars had children

compared with 8 (53%) of 15 female senior registrars. At registrar level 46 (75%) of 61 males and 27 (65%) of 48 females were parents. Four other registrars were pregnant. This would seem to illustrate the point that women with children would, in many cases, leave a career which could not provide part-time facilities in training.

During the last 4 years there has been a decline in the number of overseas doctors training in the UK, and greater difficulty for British doctors wishing to emigrate. Survey 1 studied lateral transfer of registrars into such specialties as general practice and adult medicine before the introduction of strict vocational and higher medical training requirements. It is doubtful whether such transfer would be so easy now.

Medical manpower in Scotland has not been appraised in these surveys. The Scottish medical schools are producing more doctors than can be accommodated in Scottish hospitals and current emigration restraints must point their doctors towards England, Wales, and Northern Ireland. The overall number of medical students in the UK continues to increase in line with the recommendations of the Todd report in 1968.¹¹ A comprehensive UK analysis would seem long overdue from central manpower sources.

Doctors with examination difficulties at registrar level are likely to disappear with growing competition for posts. The promotion bias (Table 9) will cause increasing frustration as doctors are forced to move out of teaching hospitals for registrar posts, so lessening their chances at senior registrar level. The alternative of one registrar post for every senior registrar post defies resolution at present even if considered acceptable.

The retirement profiles within a speciality can be precise (Fig. 1). An immediate expansion of paediatric consultant posts would absorb the senior registrar accumulation that is developing as a result of the present low consultant retirement and expansion rates combined with the difficulties in finding other 'escape routes'.

Geographical distribution of consultants according to paediatric population (the officially recognised statistic) needs to be considered (Table 4). As 97% of consultant paediatricians work full or maximum part time, correction for whole-time equivalent makes a negligible difference to this table. Many hospitals, and their staff, are sited to serve a large cross-regional population. This can happen at district level too. Research and teaching sessional commitment must be allowed for. Statistics will need to be sensitive to these factors, especially as redistribution of staff based on such figures is now a reality.

The Short committee's implementation would inevitably lead to changes in the consultant pattern of work.¹² A substantial number of non-teaching hospital consultants in paediatrics (and inevitably in other specialties) are already working with little registrar support or none (Table 3). It is the teaching hospital consultants who may ponder longer.

Paediatrics is thankfully not subdivided into large numbers of official subspecialties. Community paediatrics may be the first test of calculating correct numbers of training posts for ultimate consultancies. Neonatology is another specialty under discussion. It is imperative that the current manpower 'errors' in adult specialties—such as cardiology and gastroenterology—are not repeated in paediatrics.

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