British cardiology

Staffing in cardiology in the United Kingdom 1988 Fifth biennial survey

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SUMMARY This is the fifth survey of staffing (consultants and senior registrars) in cardiology in the United Kingdom. Data from previous years—including the fourth survey (1986) that was not published separately—are used to show the trends over the past decade. In 1988 there were less than six cardiologists per million population. The United Kingdom, with Ireland, has fewer cardiologists than all other European countries with reliable figures. The ratio for Europe as a whole is approximately 45 per million population; the recommended figure for the United States of America is 60 per million. The distribution of cardiologists in England and Wales is still very uneven. Seven million people—nearly 15% of the population—have no immediate access to special expertise in cardiology. Women are particularly poorly represented in the speciality.

This survey indicates that the crisis in staffing for cardiology continues. It will worsen as the possibilities grow for effective management of heart disease and as needs increase with the greater average age of the population. Resolution of this crisis should be a major priority in policies aimed at countering the ravages of heart disease.

Staffing and facilities in cardiology in the United Kingdom have been monitored since 1978. Cardiologists were one of the first speciality groups to do so, with the twin intentions of identifying deficiencies in the provision of services throughout the country and of providing information that would aid matching of training posts to future consultant vacancies.

Three surveys have been published.¹⁻³ These were all conducted from the Centre for Medical Research within the University of Sussex, on behalf of the British Cardiac Society and the Cardiology Committee of the Royal College of Physicians of London. The fourth survey related to consultants and senior registrars only. It was to have been undertaken by the British Cardiac Society, but changes of staff led to unforeseen delays, and the data—with an index date of 1 July 1986—were not published. They are, however, included with this report that deals primarily with information on staffing with an index

date of 1 April 1988 (for senior registrars) and one of 1 July 1988 for consultants.

Methods of inquiry

A cardiologist in each health region of England and Wales was sent a list of district contacts to confirm that these contacts were still in post and likely to complete a questionnaire. We used a different method to survey the Health Boards of Scotland and the Health and Social Service Area Boards of Northern Ireland: two of us (DB and DMCCB) collected these data. In previous surveys it was more difficult to obtain information from Scotland and Northern Ireland because of the different organisation of health care. On this occasion the new method of collecting data for Scotland and Northern Ireland proved more successful. We therefore believe that our current data are substantially accurate; but comparisons for Scotland and Northern Ireland that depend on information from previous surveys were included only when we believed that they were accurate.

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Table 1 Number of cardiologists (cardiovascular physicians) in England and Wales, 1980–1988

	1980			1982			1984			1986			1988		
	Adult	Paediatric	Total	Adult	Paediatric	Total	Adult	Paediatric	Total	Adult	Paediatric	Total	Adult	Paediatric	Total
Cardiology only	103	19	122	111	18	129	111	29	140	119	31	150	130	33	163
Major interest	98	3	101	117	4	121	121	6	127	118	2	120	127	0	127
Totals	201	32	223	228	22	250	232	35	267	237	33	270	257	33	290

The main questionnaire had two sections: one for consultant staff who practise only cardiology and the other for general physicians with a major interest in the specialty—that is a special interest in cardiology, appropriate training in the speciality, and at least 40% of professional time devoted to it. As before, we recognise that many other physicians, unable to meet all three criteria, provide important services to those with heart disease; but unless all three criteria were met they were not included in the study.

After the questionnaires were returned, the results were assembled by region or by other appropriate groups and submitted under confidential cover to our regional advisers for scrutiny as a guard against inadvertent errors. We identified discrepancies between these data and our previous inquiries at district level and referred them for confirmation or correction.

We obtained information on senior registrars by a separate questionnaire sent to each major cardiac centre.

In general, we retained the format of relevant tables in our previous publication. New tables were included to summarise the changes over the decade.

Comment

Table 1 shows the total number of cardiologists (or cardiovascular physicians) in England and Wales in five surveys from 1980 to 1988. The numbers have increased overall by 30% over the eight years (average 3.8% per year), but most of the increase has been among those practising exclusively either adult cardiology or paediatric cardiology rather than among physicians with a major interest in cardiology. This is disappointing in view of the deficiencies at district level highlighted in earlier reports.

Table 2 shows the cardiologists in post for all the regions of England and Wales and for the special hospitals. One less health district is included under the special hospitals because of the closure of the country branch of the Brompton Hospital at Frimley. In Wales each district has two general hospitals; the numbers for both these units are shown.

The total number of cardiologists within the regions shows wide disparities that do not appropriately reflect the differences in population. For example the South Western region has one cardiologist for every 246 500, whereas North West

Table 2 Number of cardiologists (cardiovascular physicians) in England and Wales by region at 1 July 1988

Region	Population*	No of HDs	Cardiology only		Major interest		Total
			Adult	Paediatric	Adult	Paediatric	
East Anglia	2 103 700	8	3	0	6	0	9
Mersey	2 408 700	10	4	3	5	0	12
Northern	3 076 800	16	6	2	11	0	19
North East Thames	3 771 500	16	12	0	10	0	22
North West Thames	3 488 300	15	16	2	7	0	25
North Western	3 991 100	19	9	2	12	0	23
Oxford	2 501 800	8	4	2	7	0	13
South East Thames	3 635 400	15	15	4	8	0	27
South West Thames	2 959 600	13	6	0	8	0	14
South Western	3 205 500	11	5	2	6	0	13
Trent	4 646 300	12	6	1	11	0	18
Wessex	2 905 600	10	2	2	8	0	12
West Midlands	5 197 700	22	13	3	11	0	27
Yorkshire	3 604 700	17	10	3	9	0	22
Wales	2 836 200	9†	5	0	8	0	13
Special hospitals		4	14	7	0	0	21
Totals‡	50 242 900	205	130 (119)	33 (31)	127 (118)	0 (2)	290 (270)

*Office of Population Censuses and Surveys' estimate for mid 1987.

†The nine Welsh health districts have 18 district hospitals.

‡1986 data (previously unpublished) in parentheses.

HD, health district.

Table 3 Number of cardiologists (cardiovascular physicians) in Scotland by health board at 1 July 1988

Health board	Population (1987)	Cardiology only		Major interest		Total
		Adult	Paediatric	Adult	Paediatric	
Argyll and Clyde	443 128	0	0	0	0	0
Ayrshire and Arran	374 752	0	0	0	0	0
Borders	102 141	0	0	0	0	0
Dumfries and Galloway	147 036	0	0	0	0	0
Fife	344 590	0	0	0	0	0
Forth Valley	272 077	0	0	0	0	0
Grampian	502 863	3	0	0	0	3
Greater Glasgow	951 219	11	3	2	0	16
Highland	200 608	0	0	0	0	0
Lanark	563 448	0	0	0	0	0
Lothian	743 700	5	2	0	0	7
Orkney	19 338	0	0	0	0	0
Shetlands	224 290	0	0	0	0	0
Tayside	393 762	2	0	0	0	2
Western Isles	31 048	0	0	0	0	0
Totals	5 314 000	21	5	2	0	28

Thames has one cardiologist for every 140 500.

Tables 3 and 4 show the numbers of cardiologists in Scotland and in Northern Ireland. The concentration of cardiologists within the Eastern Health Board of Northern Ireland is accounted for by the site of the centre for the whole of the province. Since the last report, Belfast has one fewer cardiologist. Four cardiologists meeting our criteria as having a major interest have, however, been appointed in neighbouring district hospitals.

Table 5 shows the number of retirements expected each year for cardiovascular physicians in post in England and Wales. We compared these totals with predictions from earlier years. In general terms there is good agreement, but inevitably some cardiologists do change their plans; the prediction will not always be fulfilled each year. There is a tendency for retirement to be planned for age 60, but for it then to be deferred. Few retirements are expected from 1990 to 1996, except for 1993 when nine replacement posts should become vacant. The numbers of retirements should increase thereafter (the data are shown only to the year 2000). Over the next 15 years a similar number of vacancies are expected in both full time cardiology and in general medicine with major interest in the subject. For the 11 years 1989 to 1999

the figures are 37 and 35 respectively. There will, of course, be unexpected vacancies and new posts will continue to be created.

Tables 6 and 7 show retirement data for Scotland and Northern Ireland. Up to 1998 only 10 vacancies are expected for the two countries combined.

Table 8 shows the number of health districts within each region that still have no physicians employed full time in cardiology or with a major interest in cardiology. The number was 63 in 1982, 57 in 1984, 54 in 1986, and 46 in mid 1988. There are, however, over seven million people in England and Wales (nearly 15 per cent of the population) who have no immediate access to special expertise in cardiology. The situation may, in fact, be somewhat worse than this. In several regions specialists attempt to cover more than one health district. A health district may therefore claim to have a cardiologist on the grounds that one or more sessions per week are covered from, for example, the regional centre. We know that in some regions this arrangement is regarded as satisfactory, but in others it is not.

Table 9 shows 11 Scottish Health Boards without a specialist cardiological physician, and this seems to show a position that has deteriorated since 1984. The change, however, is apparent rather than real and

Table 4 Number of cardiovascular physicians in Northern Ireland by health board at 1 July 1988

Health board	Population (1986)	Cardiology only		Major interest		Total
		Adult	Paediatric	Adult	Paediatric	
Eastern	642 100	10	2	3	0	15
Northern	379 000	0	0	3	0	3
Southern	288 900	0	0	3	0	3
Western	256 800	0	0	3	0	3
Totals*	1 566 800	10 (11)	2 (2)	12 (8)	0 (0)	24 (21)

*1986 data (previously unpublished) are shown in parentheses.

Table 5 Number of cardiologists (cardiovascular physicians) retiring each year in England and Wales (as of 1 July 1988)

Year	Cardiology only			Major interest			Grand total
	Adult	Paediatric	Total	Adult	Paediatric	Total	
1988	3	1	4	1	0	1	5
1989	4	1	5	2	0	2	7
1990	2	0	2	1	0	1	3
1991	3	0	3	2	0	2	5
1992	2	0	2	2	0	2	4
1993	5	1	6	3	0	3	9
1994	3	0	3	1	0	1	4
1995	4	0	4	1	0	1	5
1996	3	0	3	3	0	3	6
1997	3	0	3	7	0	7	10
1998	2	0	2	4	0	4	6
1999	3	1	4	9	0	9	13
2000+	93	29	122	91	0	91	213
Totals	130	33	163	127	0	127	290

indicates only a change in designation. Only three units of management within Northern Ireland (table 10) are without specialist cardiologists, but the position is regarded as satisfactory in two of these and is difficult to correct in the third because a small population is scattered over a large area.

Table 11 compares the number of senior registrars with the present number of specialist consultant posts for England and Wales. The ratio varies from 14:1 to 4:1. The disparate ratios reflect in part the number and size of the cardiac centres within the regions, and the inequality of distribution is not regarded as especially undesirable. Broadly speaking, the distribution of senior registrars within regions is also satisfactory.

Table 12 compares registrars' contract expiry dates and physicians' retirement dates between 1988

and 1992 for England and Wales. It shows that 30 more senior registrar contracts will expire than physicians will retire. The comparable figure in our last report (for 1984) was 21. The apparent excess during that period did not lead to any increase in the number of senior registrars who became time expired, and indeed fewer became time expired. Several new posts have been filled since the index date of our report, and we do not regard the present situation as unsatisfactory. Indeed, we predict that there will be a reasonable balance over the next few years, and a possible dearth of fully trained senior registrars within seven or eight years.

There are also seven registrars in Scotland training in cardiology and three in Northern Ireland (table 13).

Another imbalance does cause us concern and is

Table 6 Number of cardiologists (cardiovascular physicians) retiring each year in Scotland (as of 1 July 1988)

Year	Cardiology only			Major interest			Grand total
	Adult	Paediatric	Total	Adult	Paediatric	Total	
1989	2	0	2	0	0	0	2
1990	0	1	1	0	0	0	1
1991	1	0	1	0	0	0	1
1993	1	0	1	0	0	0	1
1998	1	0	1	1	0	1	2
2000+	16	4	20	1	0	1	21
Totals	21	5	26	2	0	2	28

Table 7 Number of cardiologists (cardiovascular physicians) retiring each year in Northern Ireland (as of 1 July 1988)

Year	Cardiology only			Major interest			Grand total
	Adult	Paediatric	Total	Adult	Paediatric	Total	
1992	1	0	1	0	0	0	1
1997	1	0	1	0	0	0	1
1998	1	0	1	0	0	0	1
2000+	7	2	9	12	0	12	21
Totals	10	2	12	12	0	12	24

Table 8 *Regions and number of health districts without cardiovascular physicians at 1 July 1988 (England and Wales)*

Region	No of HDs	HDs without	Regional pop*	Pop without*
East Anglia	8	1 (-3)	2 013 700	187 900
Mersey	10	6	2 408 700	1 151 400
Northern	16	6	3 076 800	994 200
North East Thames	16	0	3 771 500	0
North West Thames	15	2 (-1)	3 488 300	526 000
North Western	19	5 (-1)	3 991 100	863 700
Oxford	8	0	2 501 800	0
South East Thames	15	1	3 635 400	220 600
South West Thames	13	1 (-2)	2 959 600	276 300
South Western	11	2 (-1)	3 205 500	344 000
Trent	12	3 (-2)	4 646 300	884 300
Wessex	10	3	2 905 600	696 100
West Midlands	22	4 (+2)	5 197 700	748 700
Yorkshire	17	3	3 604 700	469 800
Wales	9/18†	8 (-1)	2 836 200	—
Special hospitals	4	0	—	—
Totals	205/214	45 (54)	50 242 900	7 363 000

*Office of Population Censuses and Surveys' estimate for mid 1987.

†The nine Welsh health districts have 18 district hospitals (eight of which are without cardiovascular physicians).

Changes from 1989 are given in parentheses.

HDs, health districts.

worthy of comment. Women are poorly represented in specialist cardiology. We do not accept the explanation that the training is onerous and that women may not be in a position consistently to meet the demands that are made. If this were true then the workload would be inappropriate for any trainee. Rather we believe that bias—conscious or otherwise—enters into selection. At present only four of

the 130 individuals practising adult cardiology full time are women. Many excellent applicants have had unexpected difficulties in progressing to senior registrar posts and excellent female senior registrars have had undue difficulty in becoming consultants. We hope that changes in attitude will correct the serious imbalance.

We believe that the United Kingdom has far too few posts for consultant cardiologists, both in the major centres and in district hospitals. The need has increased substantially in recent decades. Technological, pharmaceutical, and surgical advances offer new opportunities for successful treatment that all too often cannot be made available to patients. This is often because of a shortage of staff rather than

Table 9 *Scottish health boards without cardiovascular physicians at 1 July 1988*

Health board	Pop without (mid 1987 estimate)
Argyll and Clyde	443 118
Ayrshire and Arran	374 752
Borders	102 141
Dumfries and Galloway	147 036
Fife	344 590
Forth Valley	272 077
Highland	200 608
Lanark	563 448
Orkney	19 338
Shetlands	22 429
Western Isles	31 048
Total for the 11 boards	2 520 585

Table 10 *Northern Ireland health boards and number of units of management (UOM) without cardiovascular physicians at 1 July 1988*

Health board	No of UOMs	UOMs without	Health board pop (1986)	Pop without (1986)
Western	3	0	256 800	0
Eastern	6	2	642 100	175 200
Northern	4	1	379 000	129 800
Southern	3	0	288 900	0
Totals	16	3	1 566 800	305 000

Table 11 *Number of cardiovascular and senior registrars by region of England and Wales at 1 July 1988*

Region	No of HDs	Cardiology only	Major interest	Senior registrars
East Anglia	8	3	6	1
Mersey	10	7	5	3
Northern	16	8	11	3
North East Thames	16	12	10	4
North West Thames	15	18	7	4
North Western	19	11	12	4
Oxford	8	6	7	3
South East Thames	15	19	8	4
South West Thames	13	6	8	1
South Western	11	7	6	2
Trent	12	7	11	4
Wessex	10	4	8	2
West Midlands	22	16	11	4
Yorkshire	17	13	9	5
Wales	9/18*	5	8	3
Special hospitals	4	21	0	9
Totals	205/214	163 (150)	127 (120)	56

*The nine Welsh health districts have 18 district hospitals. Totals for 1986 are given in parentheses.

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Table 12 Senior registrars' contract expiry compared with cardiovascular physicians retirement years for England and Wales only

Year contract expires	Contracts expiring	Physicians retiring	Balance
1988	10	5	-5
1989	7	7	0
1990	15	3	-12
1991	11	5	-6
1992	11	4	-7
No expiry date*	2	0	2
Totals	56	24	-30

*There are two physicians with permanent contracts in posts designated as having senior registrar status.

There are 30 senior registrars whose contracts expiry dates are not known. These have been assumed to end their contracts four years after appointment or in 1988, if appointed before 1984.

Table 13 Expiry dates of senior registrars' contracts in Scotland and Northern Ireland

Year	Scotland	Northern Ireland
1989	2	0
1990	3	0
1991	1	1
1992	1	2
Total	7	3

for reasons of cost constraint. Prevention, education at all levels, rehabilitation, and community care are needs poorly met by cardiologists who are forced by circumstances to restrict their time to the more technological aspects of their work. Most of the western world is much better served. Direct comparison of numbers of cardiologists in posts in different countries is difficult because there is no universally agreed definition of a cardiologist. But even a superficial consideration of numbers can make the point. The number per million for the United Kingdom of those practising the specialty full time (adult or

Table 14 Data collected by the European Society of Cardiology* on the number of currently qualified cardiologists in other countries

Country	No/ million	Country	No/ million
Belgium	27	Sweden	46
Federal Republic of Germany	13	Turkey	8
German Democratic Republic	26	Netherlands	30
Greece	90	Ireland	4
Portugal	42	Italy	118
Austria	20	France	65
Czechoslovakia	20	Switzerland	40
Finland	10	Yugoslavia	30
Hungary	37	Denmark	16
Norway	37	Spain	55

*From report on monospecialty section on Cardiology of the UEMS on training requirements and facilities in Europe in 1989. (MFO).

paediatric) is 3.6. If all physicians with a major interest as defined in this survey are included, the number per million is still less than six. Table 14 shows data collected by the European Society of Cardiology on the number of "currently qualified cardiologists" in other countries (where numbers are known). The ratio for Europe as a whole is approximately 45 per million population. The recommendation by the American College of Cardiology for the number of board certified cardiologists in the United States was 60 per million as long ago as 1974.⁴

It may not be realistic to expect that the whole community in the United Kingdom can receive a reasonably comprehensive service for basic cardiological requirements within the next few years, but it is unacceptable that nearly 15% of the population have no immediate access to special expertise in cardiology. Many have no provision even for temporary pacing, and even where this emergency procedure was available in district hospitals the complication rate was unduly high⁵ (and N A Boon, personal communication). We believe that the problems highlighted by pacing apply equally to other procedures, which can affect the well-being of patients with heart disease.

Thus the staffing crisis continues and it will worsen as the population ages. While efforts to prevent heart disease, particularly coronary disease, must proceed, resolution of this crisis should be a major priority for those who are responsible for providing adequate staffing.

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