

# Career prospects in cardiology in England and Wales

## *Survey of 15 health regions*

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In 1978, the Cardiology Committee of the Royal College of Physicians of London, through one of us (J F Goodwin, its then chairman), expressed concern at the number of senior registrars in the specialty who had become time expired without achieving consultant appointments. The DHSS also drew attention to an apparently inappropriate ratio between the number of training posts and consultant posts in cardiology.

The facts for England and Wales were not sufficiently well established at that time for recommendations to be made to correct any possible imbalance. While recognising the need for prompt action, the committee believed that its first task was the collection of reliable data on the career prospects for those in the training grades. There were manifold difficulties preventing easy access to the necessary information. First, some consultants practising cardiology virtually exclusively were, for historical reasons, listed in regional and DHSS returns as general physicians. Secondly, physicians with an interest in cardiology varied widely in training, expertise in the specialty, and time that they were able to devote to it; no firm criteria had been set for defining posts with a major interest which called for special training though guidelines had been established by the Joint Committee on Higher Medical Training. Thirdly, many senior registrar posts nominally in general medicine provide training in cardiology which encourages incumbents to apply for a permanent position in the specialty. Finally, the number of senior registrars receiving training in academic and research posts was unknown. The committee also expressed the strong belief that many parts of the country were

not well served in modern cardiology because the number of consultant posts was inadequate. Steps were therefore taken to define the present position with regard to consultant posts, senior registrar posts (or equivalents), and their distribution.

For the purposes of the inquiry, consultants with special expertise in cardiology were arbitrarily divided into three categories; those who worked exclusively, or virtually exclusively, in cardiology; those who spent probably 40 per cent or more of their time in cardiology; and those who had a special interest in the specialty but were not able or did not wish to devote to it this proportion of their time. The present report deals only with the first two categories.

### Methods of inquiry

The consultant inquiry was made in several different ways in order to provide data which were as accurate as possible. As a first step, letters were sent to all regional medical officers in England and Wales, explaining the nature and purpose of the inquiry. A request was made that individual consultants who fell within the scope of the survey be identified at regional or district level. Returns usually came either from regional medical officers who collated the information or from individuals at district level. In a few instances, area health authorities co-ordinated local returns. Co-operation was generally excellent and only a minority of districts required reminders by letter or telephone to provide the necessary data. The specialist hospitals in London were also approached individually.

In the second stage of the inquiry, cardiologists (or physicians with an interest) were contacted directly, at least one in every district: information was requested regarding names, number of NHS sessions, and proportion of time devoted to the

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specialty. Most of the data were consistent with the earlier inquiry, but any discrepancies were resolved by letter or telephone.

Finally, the data for each individual region, by that time thought to be accurate, were submitted under confidential cover to one cardiologist in that region for final scrutiny and checking. In the earlier inquiry, we sought information which would be correct for 1 July 1979, but this was subsequently amended to 1 July 1980.

The proforma which were sent to districts also requested information on lecturers and senior registrars, in established posts and in research posts, and in general medicine and in cardiology, provided that they aspired to permanent posts in the specialty. This information was also checked on an individual basis.

The paediatric cardiologists identified consultants and senior registrars within their sub-specialty.

A summary of the data collected in this way is

Table 1 Numbers of retirements expected each year for cardiologists now in posts

Year of retirement (usually assuming age 65)	Total no. of physicians (adult and paediatric) (usually spending virtually whole time practising cardiology)	Total no. of physicians (adult and paediatric) who have a major interest in cardiology which occupies 40% of their time or more	Total number
1980	2	3	5
1981	—	2	2
1982	1	4	5
1983	2	1	3
1984	5 (1 paediatric)	—	5
1985	5 (2 paediatric)	4	9
1986	7	3 (1 paediatric)	10
1987	2	5	7
1988	5	1	6
1989	4 (1 paediatric)	1	5
1990	1	2	3
1991	5	1	6
1992	2	4	6
1993	2	6	8
1994	—	5	5
1995	7	2 (1 paediatric)	9
1996	7 (1 paediatric)	3	10
1997	2 (1 paediatric)	—	2
1998	3	3	6
1999	6 (1 paediatric)	7	13
2000	6 (2 paediatric)	5	11
2001	6	5	11
2002	4 (1 paediatric)	4 (1 paediatric)	8
2003	5 (2 paediatric)	4	9
2004	3 (2 paediatric)	5	8
2005	5 (1 paediatric)	5	10
2006	2	—	2
2007	7 (1 paediatric)	2	9
2008	5 (1 paediatric)	4	9
2009	1	5	6
2010	5 (2 paediatric)	3	8
2011	3	1	4
2012	1	1	2
2013	1	—	1
	122 (includes 19 paediatric)	101 (includes 3 paediatric)	223

presented in Tables 1 to 3. The cardiology committee felt that individual names with associated retirement dates should be regarded as confidential information. The full data have therefore been restricted to the cardiology committee. Our inquiry did not include the cardiologists in Scotland, but for completeness these data, provided by Professor M F Oliver, appear as an appendix.

Comments

The inquiry proved difficult and time-consuming, but we believe the facts now presented are substantially correct. We encountered little problem in identifying those physicians who work exclusively or almost exclusively in cardiology. Most have appointments in teaching hospitals, and regional centres. Many other physicians, however, are well trained in the specialty and provide considerable expertise, both in large centres and in district hospitals. It was important to include them in the survey, but we felt further categorisation was necessary; after considerable debate we classified those who considered they spent 40 per cent or more of their time in the specialty in one group and those who spent less than 40 per cent in another group. We recognised that some of the physicians would fall in a grey area: one region and one district reported that correct classification was sometimes impracticable. Nevertheless the various methods of inquiry gave data with relatively few discrepancies, and these were resolved without undue difficulty.

Our decision to base this report only on physicians fully committed to cardiology and those who spent at least 40 per cent of their working time in this specialty was arbitrary, but we believe that it achieved a reasonable separation between those with comprehensive training and those without. We know of a few physicians outside these categories who could unquestionably be designated as cardiologists but by choice or because of circumstances their major efforts are at present directed in other areas.

We believe that more than 90 of the 199 health districts in England and Wales do not have a cardiologist as defined for the purposes of this survey. While many of these districts do have general physicians with expertise in cardiology and some are well supplied by regional centres, others certainly fail to provide an efficient modern service in the specialty. Moreover, the number of cardiologists in England and Wales is small by comparison with numbers in countries which have similar requirements for medical services. If we include both fully committed cardiologists and those with a major interest, we have one specialist for every

Table 2 Number of cardiologists in posts (July 1980) for each Health Region of England and Wales

Region pop. figures 1975*	Adult cardiology		Paediatric cardiology		Sum of columns 1 and 3	Sum of columns 2 and 4	Total columns 1-4
	Physicians fully committed to cardiology	Physicians major interest 40% of time or more	Physicians fully committed to cardiology	Physicians major interest 40% of time or more	Total no. physicians fully committed to adult and paediatric cardiology	Total no. physicians major interest 40% of time or more practising adult and paediatric cardiology	Total no. physicians practising adult and paediatric cardiology
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
East Anglia 1 781 000	3	1	—	—	3	1	4
Mersey 2 501 000	4	1	2	1	6	2	8
Northern 3 125 000	6	4	2	—	8	4	12
NE Thames 3 714 000	10	8	—	—	10	8	18
NW Thames 3 470 000	12	15	2	1	14	16	30
North Western 4 074 000	8	9	2	—	10	9	19
Oxford 2 198 000	3	6	—	1	3	7	10
SE Thames 3 599 000	9	5	2	—	11	5	16
SW Thames 2 883 000	5	12	—	—	5	12	17
South Western 3 148 000	4	6	1	—	5	6	11
Trent 4 545 000	5	5	—	—	5	5	10
Wessex 2 640 000	2	4	1	—	3	4	7
West Midlands 5 176 000	12	6	1	—	13	6	19
Yorkshire 3 582 000	6	6	2	—	8	6	14
Wales	5	10	—	—	5	10	15
National Heart Chest Hospitals and Gt Ormond Street	9	—	4	—	13	—	13
Total	103	98	19	3	122	101	223

\*Extracted from Health and Personal Social Service Statistics 1975. No figures for that year for Wales (1971). Wales population figure 2 723 000.

220 000 people. In the United States of America the ratio of cardiologists to population was 5:1 to 100 000 in 1974, and a figure of 6 to 100 000 was recommended<sup>1</sup>; this is more than 35 times the number in posts in this country. Circumstances in the UK are not the same as in USA, and a strict comparison is unrealistic. Western Europe offers a more meaningful comparison. EEC figures<sup>2</sup> show that most member countries have two to 10 times more cardiologists, in relation to population figures, than we have; the exceptions are Eire, with figures similar to our own, and Italy with numbers approaching those recommended in USA.

That Europe and the USA have so many more cardiologists than England and Wales is not sufficient evidence of itself that essential needs are not being met in our own countries. We believe, however, that serious deficiencies do exist.

Cardiology has advanced rapidly in recent years: new techniques for investigation and treatment are now available which both improve quality and increase duration of life. Three examples illustrate this point. First, coronary surgery has been outstandingly successful in alleviating symptoms for many patients with chronic refractory angina, and important subgroups have been identified for which surgery is of prognostic benefit.<sup>3</sup> Yet few district

hospitals have adequate stress-testing facilities which greatly aid selection, and in Britain wide regional variations exist in the availability of surgical treatment for angina. Secondly, the indications for permanent cardiac pacing are widely agreed, but in the United Kingdom less implants are performed than in any other European country except Czechoslovakia. The number of implants is now relatively constant at 75 new systems per million population per year, about 45 per cent the figure for Germany. Thirdly, rapid advances are being made in the diagnosis and management of the more serious cardiac arrhythmias yet ambulatory monitoring is available in few district hospitals,

Table 3 Number of senior registrars and equivalents (in cardiology/general medicine) in England and Wales

	Senior registrars	Lecturers research fellows (SR status)	Total
Adult cardiology	39	24	63*
Paediatric cardiology	6	2†	8
Total	45	26	71

\*42 of the 63 senior registrars (or equivalent) in adult cardiology hope at present to find a career exclusively in cardiology.

†One lecturer will not be applying for a post as consultant in paediatric cardiology.

and more sophisticated electrophysiology is unusual, even in the major centres.

Cardiology was once properly the province of the general physician, and many patients with heart disease can still be managed well by physicians with only general training in the specialty. But if the potential benefits of modern cardiology and cardiac surgery are to be widely available, more specialised expertise must be provided at district level, both for investigation and treatment locally and for the selection of patients for referral to regional centres.

We have at present a paradox: there is a pressing need for more physicians with a major interest in cardiology, yet at the same time there is a considerable excess of senior registrars in the specialty, compared with the number of posts which will be available in the next 10 years. Many senior registrars are time-expired, and many more will face the frustration of being unable to find a suitable post despite having all the necessary qualifications. Retraining in another subspecialty at senior registrar level is very difficult to organise, wasteful in economic terms, disastrous to the individual, and nonsensical when the rejected expertise is needed by the community.

In the present economic climate we appreciate the difficulties of expansion of the specialty in major centres, though this is a necessary aim.<sup>4</sup> We do suggest, however, that urgent consideration be given to the appointment of physicians with a major interest in cardiology as posts become vacant in district hospitals. Those who decide on priorities for replacement posts would do well to reflect that cardiovascular disease accounts for much morbidity even in younger age groups and kills more than 50 per cent of men who die after the age of 50.<sup>5</sup>

We are grateful to the Cardiology Committee of The Royal College of Physicians who in 1970, under the chairmanship of the late Dr G W Hayward and during the presidency of the late Lord Rosenheim originally drew attention to the problems of 'Cardiological Staffing and Career Structure for Cardiological Specialists' and introduced the concept of different categories of cardiologists (RCP Report, October 1970).

References

- 1 Adams FH, Mendenhall RC. Evaluation of cardiology training and manpower requirements. DHEW publication 1974; No. (NIH) 74-623. (Quoted in American College of Cardiology and Health Resources Administration DHEW. Cardiology manpower (9th Bethesda Conference.) *Am J Cardiol* 1976; **37**: 941-83.)
- 2 European Union of Medical Specialists (final report.) Sub-specialty in Cardiology June 1980.
- 3 Prospective randomised study of coronary artery bypass surgery in stable angina pectoris. Second interim report by the European Coronary Surgery Study Group. *Lancet* 1980; **ii**: 491-5.
- 4 Second Report of a Joint Cardiology Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England on combined cardiac centres for investigation and treatment with a note on the requirements of cardiology in hospitals outside such a centre. *Br Heart J* 1980; **43**: 211-9.
- 5 *Trends in mortality 1951-75*. Office of Population Censuses and Surveys Series DH1 No. 3. London: HMSO, 1978.

Requests for reprints to Dr Richard Emanuel, Royal College of Physicians, 11 St Andrew's Place, London NW1 4LE.

Appendix

Scottish figures (from the Joint Cardiology Committee of the Royal College of Physicians of Edinburgh and of the Royal College of Physicians and Surgeons of Glasgow (convener M F Oliver))

	Adult cardiologists		Paediatric cardiologists	
	Cardiologists (1)	Physicians with specialised interest (2)	Cardiologists (3)	Physicians with specialised interest (4)
Greater Glasgow	6 (2)	9 (1)	1	5
Lothians (including Edinburgh)	5 (1)	1	1	—
Tayside	—	2 (1)	1	—
Grampian	1	1	—	1
Dumfries	—	2	—	—
Lanark	—	1	—	—
Fife	—	1	—	—
Highland	—	1	—	—
Scottish totals (5 179 400)	12	18 (2)	3	6

Figures in brackets represent full time university staff with honorary consultant contract and are included in the main figure.