MEDICAL PRACTICE

Contemporary Themes

General medicine in the 'eighties

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Abstract

The general physician with or without an interest is directly responsible for the initial and continuing care in most acute medicine. Specialty interests cover the whole range of medicine but in most instances are subordinate to the claims of general medicine. Consultants in district general hospitals carry a bigger caseload in acute medicine than their colleagues in teaching hospitals, and this has implications for undergraduate and postgraduate training. The management of patients in intensive care units remains very much the task of the general physician.

The general physician will continue to be an essential member of the hospital service in the foreseeable future.

Introduction

The future of general, or internal, medicine was the subject of anxieties expressed by Petersdorf in the United States in 1978,[1] and this theme was taken up the year after in Britain.[2] In a subsequent, typically lucid analysis Bryan Jennett explored the problem as it affected the United Kingdom and suggested that specialists should declare how much of the work that they normally do could equally well be carried out by generalists.[3]

At the same time the Royal College of Physicians became aware of mounting anxiety expressed by fellows throughout the country that general medicine was being eroded by the development of relative specialties based on technology, the increasing clinical commitment of haematologists, the broadening interests of radiotherapists and anaesthetists, and the growth of specialties such as general practice, accident and emergency, and medical care of the elderly. In response the college set up a working party and then a college committee to assess the scope of general medicine as practised today. The results of their inquiry form the basis for this report.

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Method

Questionnaires were sent to college regional advisers in England, Wales, and Northern Ireland, who distributed them to general physicians identified by their participation in the acute unselected emergency take. In some districts this included geriatricians and in others specialist consultants, provided that they still participated in the emergency "take."

The questionnaires were in three parts. Form 1, filled in for each district, covered intensive care facilities and estimates of future manpower needs (for both consultants and junior staff). Form 2, again for each district, requested details of senior registrars and registrars in general medicine, including country of graduation and career aspirations. Form 3, completed by each consultant, covered specialty interests, time spent in general medicine, case workload, and supporting staff. Specific details of sessional contracts were not asked for.

Although the overall response was good, the returned questionnaires were not always fully completed, and this accounts for some minor variations in the totals given in the tables. Details of junior staff and their aspirations (form 2) were the most incomplete and have therefore been omitted from this report. For local reasons one region (North West Thames) did not participate.

Results

Completed questionnaires (forms 1 and 2) were returned by 185 of 218 districts in England, Wales, and Northern Ireland. The return was 80% from teaching hospitals and 83% from non-teaching hospitals. There were 1031 replies from individual consultants (form 3) working in general medicine in the different districts. Figures from the Department of Health and Social Security give a total of 1141 general physicians in England and Wales,[4] and if Northern Ireland is excluded this gives an estimated 85% return.

CONSULTANT PHYSICIANS

Scope—Seven hundred and sixty one consultants (74%) who replied regarded themselves as general physicians with an interest (table I). The generalist was evenly represented in teaching and non-teaching hospitals, but specialists, many of whom had honorary contracts, were more commonly found in teaching hospitals than in non-teaching hospitals.

Time spent on general medicine—Seven hundred and ninety two consultants (77%) spent most of their time in general medicine (table II). Only 32% of consultants in teaching and 19% in non-teaching hospitals spent less than 40% of their time in general medicine.

TABLE I—*No (%) of specialists, generalists with a specialty interest, and generalists in teaching and non-teaching hospitals*

	Specialist	Generalist with interest	Generalist	Total*
Teaching	55 (17)	228 (68)	50 (15)	333 (100)
Non-teaching	42 (6)	533 (76)	122 (18)	697 (100)

*One questionnaire was incomplete.

TABLE II—*Proportion of time spent in general medicine by consultants in teaching and non-teaching hospitals (figures are No (%) of consultants)*

	Proportion of time			
Hospitals	<40%	40-80%	>80%	Total*
Teaching	105 (32)	183 (55)	43 (13)	331 (100)
Non-teaching	130 (19)	422 (61)	144 (21)	696 (100)

*Four questionnaires were incomplete.

geriatrics included in their contract, 21 had another specialty interest, which ranged from cardiology to care of the young disabled.

Acute admissions—Information on acute admissions was given in 990 questionnaires (96%), though only 536 (52%) indicated the average number of beds available, presumably because this figure is so variable. Doctors in non-teaching hospitals were on take for emergency admissions more often (one in 4·7 days) than in teaching hospitals (one in 6·8 days). The average numbers of admissions during on take periods was also greater in non-teaching (8·9) than in teaching hospitals (4·8). Table IV shows the difference in the pattern of emergency duties; the pattern was similar for both metropolitan and non-metropolitan regions. Such duties were less than

TABLE IV—*Comparison of emergency duties in teaching and non-teaching hospitals*

	No of consultants	
Frequency of days on take	Teaching	Non-teaching
1	17	9
2	11	54
3	30	184
4	42	173
5	35	78
6	41	59
7	67	72
8	9	20
9	32	1
10	12	18
11		1
12	11	9
13	1	
14	17	10
15	2	1
>15	6	8
Total*	333	697

*One questionnaire was incomplete.

TABLE III—*Specialty interests of general physicians in non-teaching and teaching hospitals**

	Interest incorporated in contract		Interest not incorporated in contract		Total	
	Non-teaching	Teaching	Non-teaching	Teaching	Non-teaching	Teaching
Cardiology	58	22	66	9	124	31
Diabetes	60	17	50	23	110	40
Endocrinology	19	24	33	17	52	41
Gastroenterology	85	32	59	28	144	60
Clinical genetics		1	1		1	1
Geriatrics	48	9	3	1	51	10
Haematology	3	5	3	7	6	12
Hypertension			4	13	4	13
Infectious diseases	7	2	3	1	10	3
Intensive care	4	1	9	2	13	3
Immunology	1	2	4	7	5	9
Metabolic diseases		5	2	7	2	12
Neurology	2	2	5		7	2
Nuclear medicine	1	4	1		2	4
Obstetrics		1	2	1	2	2
Occupational diseases			1	2	1	2
Oncology	2	2	7	4	9	6
Clinical pharmacology	4	12	5	2	9	14
Renal disease	21	28	15	8	36	36
Respiratory diseases	148	38	9	9	157	47
Rheumatology	23	4	8	3	31	7
Terminal care	1		3		4	
Toxicology	1	1			1	1
Young disabled	2		2	1	4	1
Total	490	212	295	145	785	357

*Includes those who specified more than one interest.

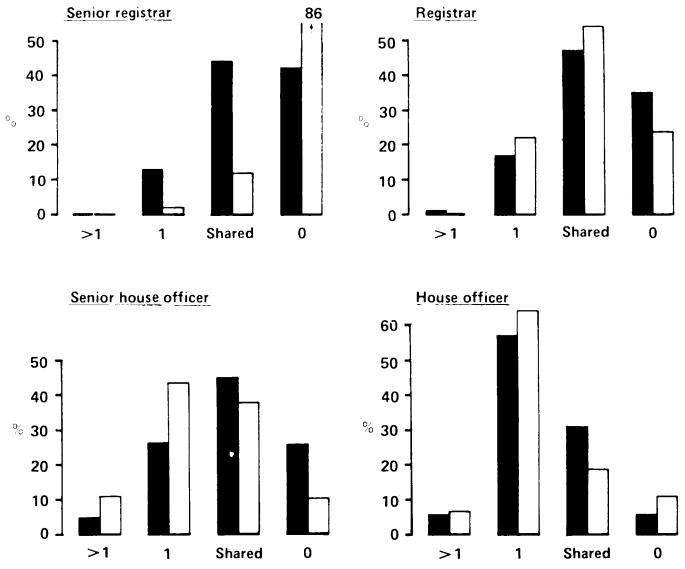
Specialty interest—A specialty interest was specified by 980 consultants (95%) overall, including many of those who regarded themselves as generalists, and 162 (16%) specified more than one interest. Seven hundred and two (68%) had a specialty included in their contract (table III). Detailed analysis of the common specialties did not show any major differences in on take duties, numbers of admissions, or beds available. Where physicians had more than one interest a wide spread of other specialty interests was seen. Some—for example, diabetes and endocrinology—were predictable, but many were unexpected—for example, cardiology and oncology, and rheumatology and gastroenterology. Of the 57 doctors with an interest in one day a week (one in five excluding weekends) in 60% of teaching and 32% of non-teaching hospitals.

Specialty transfer—Routine transfer of patients to a specialist unit was indicated by only 175 consultants (17%) overall (16% in non-teaching hospitals, 20% in teaching hospitals). This was most commonly to the cardiac care unit, which accounted for half the specialty transfers in both teaching and non-teaching hospitals. Other specialty transfers included diabetes, geriatrics, neurology, haematology, drug overdose, and respiratory diseases.

Firm structure—The figure summarises the details of supporting staff that

were given in all but 15 of the questionnaires. Most consultants shared senior registrars and registrars. Consultants in teaching hospitals were more likely to have a senior registrar but less likely to have a senior house officer or registrar and more often had to share a house physician than their colleagues in non-teaching hospitals. Only 33 senior registrars and 13 registrars had been in post for more than four years. Information was also available on 143 other staff, including 88 clinical assistants (279 sessions), 33 hospital practitioners (108), and 22 associate specialists (170). These were spread fairly evenly across regions and between teaching and non-teaching hospitals.

Age—The year of retirement was recorded in 925 questionnaires (90%). Two hundred and sixty one consultants (25%) indicated that they intended to retire at the age of 60; their average age (45·5 years) in both teaching and non-teaching hospitals was slightly younger than that of the overall report (46·8 years).



Comparison of supporting staff in teaching (■) and non-teaching (□) hospitals.

TABLE V—*Responsibilities of staff in intensive care units (figures are No (%) of units)*

	Administration	Junior staff	Care of patients
General physician	27 (16)	65 (41)	88 (55)
Anaesthetist	110 (66)	5 (3)	10 (6)
Specialist in intensive care		9 (6)	4 (3)
Other	15 (9)	2 (1)	1 (1)
Shared:			
General physician and anaesthetist	14 (8)	64 (41)	52 (33)
General physician and specialist in intensive care		13 (8)	4 (3)
Total*	166 (100)	158 (100)	159 (100)

*Some questionnaires were incomplete so totals differ.

INTENSIVE CARE FACILITIES

Information on intensive care units was available from 178 district authorities, of which eight had no facilities at the time of the survey (table V). Three quarters of the units were administered by anaesthetists, but general physicians were largely responsible for care of their own patients either alone or in conjunction with the anaesthetist or a specialist in intensive care. There were no major differences between teaching and non-teaching hospitals.

Discussion

The aim of this survey was to assess the current role of the general physician and anticipate future needs. We used participation in the acute take of unselected hospital admissions to distinguish the general physician from the specialist. The response rate of 85%, bearing in mind that one region did not participate, was remarkably high. This, together with the even spread across the country and between teaching and non-teaching hospitals, suggests that we obtained a representative picture of the current state of general medicine.

Participation in the acute emergency take is central to the role of general physicians. The questionnaire covered the pattern of such duties, including the workload and the support available, but not the other major clinical duty of the general physician—outpatient clinics. Individual comments suggested that referral to outpatient clinics is becoming increasingly specialty oriented, and this should be the subject of a future survey. Nevertheless, general medicine, which presumably covers both inpatient and outpatient care, was thought to occupy more than 40% of the time of three quarters and more than 80% of the time of a fifth of those who replied. The pattern was the same for both teaching and non-teaching hospitals.

Most doctors specified a specialty interest, and, as in an earlier survey, the most common were gastroenterology, chest disease, cardiology, and diabetes.[5] Over 20 were specified in all, a figure similar to the number of specialty training programmes recognised by the joint committee for higher medical training. Of particular interest are the 162 who had more than one specialty and the 440 who had special interests not included in their original contract. This reinforces the views expressed in the 1980 document produced by the DHSS on medical manpower that the move towards greater specialisation should be discouraged and there should be flexibility in training programmes to allow for the development of new interests.[6]

There were considerable differences in the pattern of work between teaching and non-teaching hospitals. The number of acute admissions was consistently higher for the doctor in non-teaching hospitals than in teaching hospitals. This, taken with the frequency of days on take, gives an average of about 260 admissions a year for the consultant in a teaching hospital and about 690, over 2·5 times more, for the consultant in a non-teaching hospital. Interesting corroborative evidence concerning experience of acute medicine comes from a survey performed in the South East Thames region showing discharges and deaths per preregistration house officer per week in the different hospitals in the region (personal communication). The number ranges from 5·8 to 45·8, with an averge of 8·6 in teaching hospitals and 19·5 in district hospitals. The implications of these figures for education in general medicine and all other disciplines cannot be ignored. The training needs of general medicine are at present ill defined but must include experience in dealing with the acute emergency take; clearly, in this respect, though not perhaps in specialty training, the district hospital has more to offer than the teaching hospital. Indeed, the designations of "teaching" and "non-teaching" may be outdated as all hospitals in the United Kingdom now have a teaching function.

Another point highlighted by the survey was that only a few consultants routinely transfer patients admitted to acute wards to specialist units, implying that most general physicians are prepared to look after a wide range of medical problems. Training for the general physician who will work in the district hospital must therefore cover the main specialties and include adequate experience of the high dependency areas such as coronary and intensive care.

The figures on intensive care facilities are more comprehensive than those quoted by Gilston.[7] His survey covered 74 hospitals, replies coming mainly from anaesthetists (78%), whereas in this survey information was received on 170 units. Although anaesthetists continue to be largely responsible for administration, the care of patients remained the responsibility of the admitting physician or the admitting physician and an anaesthetist in 140 units (table V). Individual comments suggested that the anaesthetist primarily dealt with ventilatory problems but that general patient care was provided by the medical team. Even so, only 14 doctors specified intensive care as a primary or secondary interest, and only five had it mentioned in their contract. The case for a definite sessional commitment and specific training guidelines is strong and is currently under investigation.

The manpower figures, which have not been considered in detail

in this report, showed a desire for an increase in consultant physicians by about 126 (12%) over the next two years. This is considerably more than the figure quoted by the DHSS in its guidelines of August 1984, in which a net increase of 27 posts a year was predicted for the next four years. The numbers of other supporting staff—hospital practitioners, associate specialists, and clinical assistants—were not inconsiderable, amounting to 557 sessions a week, the equivalent of 50 whole time physicians. One should question whether 4·7% of the total workforce (and this is probably an underestimate) should be so constituted while consultant expansion is constrained. Further information on the role of these grades, particularly in technique oriented specialties such as endoscopy is required.

What is the future for general medicine? Whatever the trends towards increasing specialisation the need to care for acute medical admissions, which account for an overwhelming proportion of the inpatient workload, will continue. Even if specialty transfer becomes more common in teaching hospitals logistics will make it impossible in all but the largest district hospital. The development of special interests is likely to continue at all grades, and to cover the wide range of different interests in the smaller hospital doctors may need to develop more than one interest. Other alternatives include cross district contracts and the development of a special interest by geriatrician colleagues. What is clear from this survey is that the general physician remains an essential component of hospital staff in the United Kingdom, and future training programmes must be structured with this in mind.

This paper is based on the report of the committee on general (internal) medicine of the Royal College of Physicians of London. Further details of the questionnaire and its analysis are available in the full report or from the authors.

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Bias in awarding research grants

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In many branches of science research grants play a key part in funding researchers and projects. In English speaking countries a fairly high proportion of research money is administered through grant systems. Yet despite the importance of research grants there has been little study of biases affecting the grant giving process.

A key mechanism in most grant systems is peer review, which has been the focus of increasing attention in recent years.[1,2] A major difficulty in studying biases in peer review is the anonymity of reviewers. Recently, freedom of information legislation in Australia was used to expose a case of apparent bias in the denial of a research grant proposal, thus illustrating a number of important aspects of the general problem of bias.

The Smith case

In Australia the National Health and Medical Research Council (NHMRC) is the largest grant giving body for the medical sciences. Administered through the Commonwealth government's Department of Health, in 1986 it dispensed 32 million Australian dollars to roughly 750 projects.

Recently there has been limited publicity about the case of an unsuccessful applicant to the NHMRC.[3,4] The account here is based on documents about the case made available to me by the scientist in question, who prefers to remain anonymous and is referred to here as Dr Smith.

Dr Smith applied for NHMRC grants on three occasions, in 1976, 1979, and 1982; only the 1979 application was successful. Dr Smith had over 30 years' experience in human development and behaviour and family functioning, with many publications in international journals and high professional standing both in Australia and overseas. After the rejection of the 1976 application Dr Smith wrote to the NHMRC secretary asking for reasons. In November the secretary replied that the reports of assessors had to remain confidential but, nevertheless, he could pass on a few general comments based on the reports. Dr Smith was very unhappy with this and immediately sent a lengthy letter to the NHMRC secretary defending the application. There was no reply from the NHMRC. After considerable delay Dr Smith undertook the research, making financial sacrifices to do so.

This might have been the end of the matter, except for an important development: the introduction in 1982 of freedom of information legislation in Australia. The federal legislation covered the Department of Health. After the rejection of the 1982 application it seemed opportune for Dr Smith to request information about all the grant applications.

In 1976, apparently the standard procedure for grants was for NHMRC applications to be sent to several external assessors, either in Australia or overseas, who were experts in the applicant's subject. The assessors were expected to comment on the application and rate it by ticking one of six boxes graded 1 (poor) to 6 (outstanding). The application was assigned to a particular member of a relevant committee of the NHMRC. This member, called the spokesman, reported to the committee on his own personal rating as well as those of the external assessors. Then the other members of the committee wrote down their ratings, and the average of the ratings by the committee members was used to decide whether to offer a grant. Dr Smith sought documents through the freedom of information legislation on all these facets of the 1976, 1979, and 1982 grant applications.

The department of health initially provided copies of the reports submitted by the external assessors in each of the three years and by the interviewing committees responsible for the final grant recommendations. The ratings that went into these reports were deleted. Dr Smith requested an internal review of the decision to delete the ratings. This led to the release of the ratings of the 1976 and 1979 assessors. The ratings of the 1982 assessor were withheld on the grounds of "breach of confidentiality." Access to the final ratings of the 1976, 1979, and 1982 interviewing committees was also denied by the department of health as being "contrary to the public interest" because "the disclosure of these ratings would prejudice the effectiveness of the 'peer review process' by which medical research funds are allocated."

This decision was not surprising as it is common for government departments to reveal as little as possible on sensitive issues in response to freedom of information requests. The standard response to this obstruction is to appeal against the department's refusal. In several cases departments have withdrawn their cases and supplied the requested documents just before the appeal was to be heard.[5] In the Smith case an administrative appeals tribunal finally heard the case and ruled in favour of Dr Smith. This

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