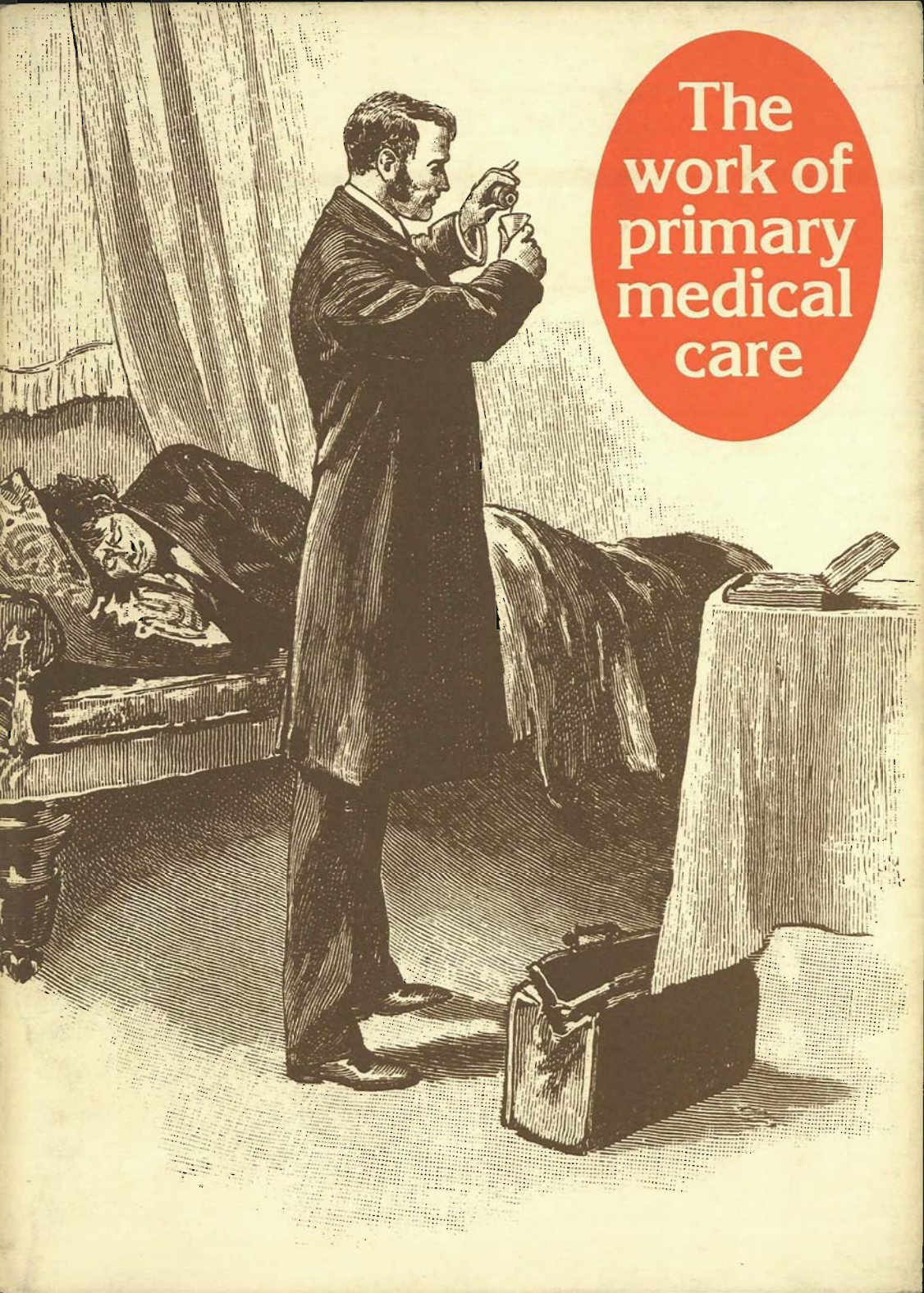

The work of primary medical care

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Introduction

The United Kingdom's 25,000 family doctors,[1] together with the nurses, midwives, health visitors, receptionists and others who make up the primary medical care team, deal with over 90 per cent of all illnesses which reach the formal structure of the health services. They also play a major role in generating the work of the specialist, hospital sector. They are the foundation upon which the remainder of the NHS rests and it could, therefore, be expected that the NHS should have at least some model which can describe the major functions of primary medical care and some criteria against which performance can be measured.

No such generally accepted model exists although the changes in primary care since the war, and particularly since the 1960s, have created strong pressures to clarify the role of the practice team. Such is the importance of primary medical care, both in itself and to the remainder of the NHS, that the future is likely to bring even stronger pressures towards the clarification and definition of the functions of the practice team, both within the structure of the NHS and within the medical and related professions themselves.

These pressures are likely to be brought to bear despite the continuing autonomy of family practitioners, as reflected, for example, in the administrative separation of the new Family Practitioner Committees from the Area Health Authorities in the reorganised NHS in England and Wales.

What are the objectives of general practice? What should be the functions of the practitioner and each member of his team? Which aspects ought to take up the greatest amount of working time and how ought practitioners be trained to cope with their changing workload? These and other related questions have been asked many times before, with increasing urgency in recent years, and have been exhaustively discussed in the journals, academic literature and official and quasi official reports.[2]

However, at the grass roots level of relationships between individual practitioners and their patients, conceptions of what the job of primary medical care entails are much more nebulous. The wide

1 For the sake of consistency, 'primary medical care' or just 'primary care' is the term which will be used throughout to describe the ambit of the general practice team. Family doctor is the term which will be used as a synonym for the general practitioner.

2 For example, the report of the Royal Commisison on Medical Education (HMSO 1968) the report on The Organisation of Group Practice (HMSO 1971) and the BMA Planning Unit's report on Primary Medical Care (BMA 1970). The last suggested a speciality of primary medicine which would combine and synthesise certain aspects of the disciplines of clinical medicine, social medicine (including preventive medicine), psychology and sociology.

variations found between practitioners in every measurable aspect of workload bear witness to the ill-defined nature of the practice of primary medical care even today.

This paper looks closely at the debate on the ideal role of the primary medical care team. It also tries to establish the direction in which primary medical care seems to be moving, and, with the aid of data from a number of workload studies, attempts to analyse the implications of changes in the roles and working patterns of the primary medical care team.

First, however, it is useful to look at the historical context. Since the inception of the NHS there has been a period of rapid social and technological change which has fundamentally altered the pattern of illness with which the health services are faced. This change has also altered the potential for satisfying demands for effective health care within the component parts of the NHS.

When the NHS was being set up the first priority in the planners' minds was to give the mass of undertreated sick people rapid access to the hospital services. It was even expected by some planners that as the backlog of serious illness was brought into the specialist hospital sector the amount of serious illness within the community would diminish and the NHS would become more and more akin to a holding operation.

This proved an ill founded expectation. In the event, medical technology and improved living standards did make a huge impact on those conditions which burdened the pre-war health services. But at the same time technological and social developments were expanding the range of conditions treatable within the NHS to such an extent that there has never, throughout the history of the NHS, been a period when pressure of demand on resources has been slack.

In the process, the central role of the hospital sector has altered considerably. Before the inception of the NHS, infectious conditions, particularly tuberculosis, were the dominant health problems of the day and the bulk of health care involved treatment of acute episodes of these conditions, best carried out in a hospital where continuous medical and nursing surveillance was available. But with the discovery and use of vaccines, antibiotics and other easily administered and effective medicines, together with the availability of laboratory support, much of this illness can now be eliminated or contained quickly and prevented from becoming serious by the primary care team. Thus technological progress has undermined much of the rationale on which plans to give the hospital sector the central role in the NHS were originally based.[3]

Tuberculosis is not a problem any more. The main generators of

3 Although technological progress has at the same time generated costly sophisticated procedures which can only be undertaken in a hospital setting.

workload are no longer acute infective conditions but chronic conditions, like chronic bronchitis, arthritis and heart disease which have not yet been significantly affected by therapeutic progress.

People with these sorts of conditions only occasionally require highly specialised treatment in a hospital setting. It may be necessary during intermittent crises (though there is a great deal of evidence that medically unnecessary in-patient treatment often takes place) (OHE 1970). Admission to hospital may also be inevitable when the fabric of family or community support has broken down leaving no alternative but hospitalisation for people unable to look after themselves.

Although they may need hospital treatment intermittently, however, for most of the time the primary requirement of people with chronic conditions is the management of exacerbations and the alleviation of their most handicapping symptoms. This requires support within the community from personnel able to appreciate their medical needs in relation to their family, home and working backgrounds. That sort of care is best provided by a primary medical care team together with complementary support from the social services.

Furthermore, technological progress in the 1970s seems certain to widen the scope of personal preventive health services undertaken at the primary medical care level. Prevention of infective conditions through immunisation has already made a very significant impact on the health of the community and it seems likely that scientific and technological progress will further extend possibilities, and that existing immunising agents will be made more effective in a wide range of viral and bacterial conditions.

In addition, there are already a number of conditions, such as high blood pressure and diabetes, where there are simple diagnostic tests capable of distinguishing in a reasonably high proportion of cases between well and unwell populations and where therapeutic intervention among the unwell population is effective. Developments in early diagnosis and therapy seem likely to make preventive medicine through the routine screening of populations at risk a practical proposition for these and a whole range of conditions, including many types of cancers, in the future. If the tests and the treatments are simple (which they must be to be applied to a large proportion of the population) then this seems the sort of medical care particularly appropriate to the community-based practice team rather than the hospital.

A model for such a comprehensive screening programme already exists in the Kaiser Permanente scheme in the United States where the provision of a whole series of diagnostic tests in the context of primary medical care has proved an alternative to hospital orientated

medicine which is satisfactory to both doctors and patients. Although there are as yet few areas where the case for screening for asymptomatic disease is proven there is little doubt that this will be one of the key areas of medical progress in the near future.

Finally, the content of primary medical care has been extended in an entirely different direction by fundamental changes in what society expects from its health service. Our conception of illness, of the sort of conditions which demand medical care, has become considerably enlarged.

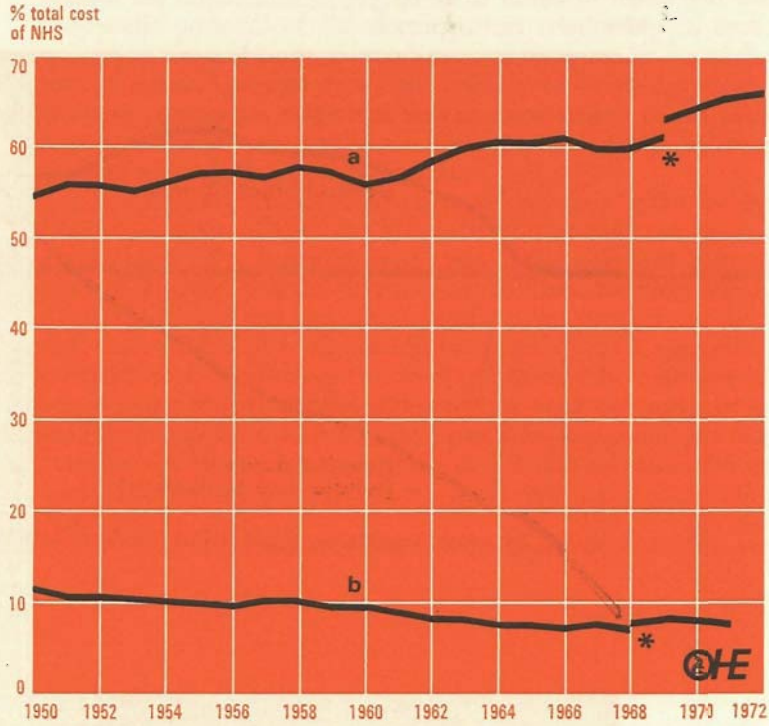
With prevailing attitudes in the 1970s people are much more likely to express pain than hide it behind the stiff upper lip of prewar days. They are also more likely to bring to the attention of doctors those conditions which previously might have been embarrassing or associated with stigma. This does not only mean that people now expect treatment for trivial conditions (though there is a good deal of evidence of a lowered threshold of tolerance to ill health as a result of rising expectations in a generally well and wealthy population). It also means that such conditions as alcoholism, depressive illness and a whole range of behavioural and mental disorders are now thought suitable cases for treatment under the NHS.

Rather than being hidden behind a physical diagnostic label, behavioural and mental disorders can increasingly be described as such. Furthermore, their alleviation is now quite often possible. These conditions, which were previously regarded as outside the scope of health services, are accounting for an increasing proportion of workload, and, in that the health services respond to the demand for care, it is at the level of primary medical care that services are most appropriately provided.

Thus, although the rate of increase of financial allocations for 'community' health services has only very recently become as great as the rate of increase for the hospital sector (OHE 1974); there is a general recognition in planning circles that primary medical care is the setting in which most expansion in the future reorganised health service should take place.

However, primary medical care has only recently begun to organise itself to fulfil its leading role. The dominance of the hospital sector in the 1948 NHS had as its consequence a diminution if not a downgrading of general practice. Most of the ablest general practitioners at the time had hospital appointments and many opted to specialise in hospital medicine. The remaining general practitioners were very largely excluded from hospitals which were seen to be at the forefront of medical progress and to be the setting in which any ambitious doctor must pursue his career. The system of remuneration in general practice was such as to encourage as large

Figure 1 *Percentage of total NHS cost taken by a) the hospital service and b) the general medical services United Kingdom 1950–72*



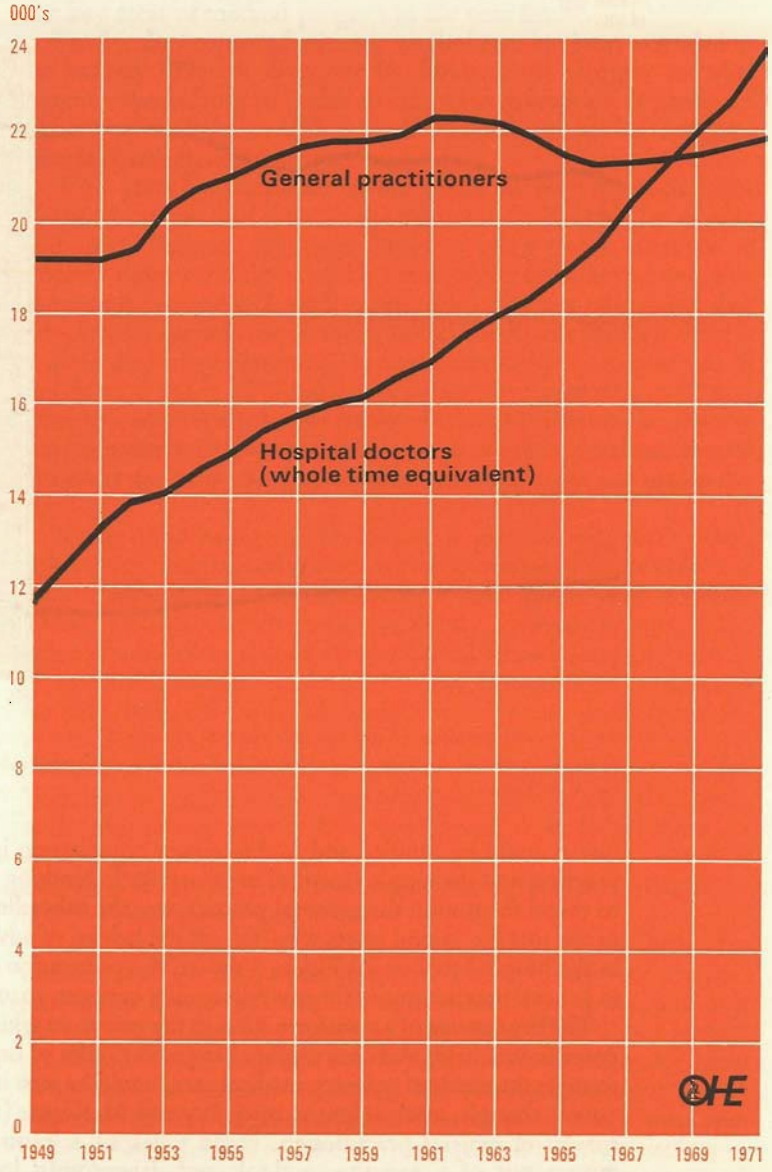
Source OHE Information Sheet No. 24. The cost of the NHS

*Change in definition of NHS. Certain local authority services transferred from NHS to Social Services.

lists as could be handled and to discourage organisation into group practices and the employment of ancillary staff. Nothing was done to dispel the notion that general practice was the subordinate sector of the NHS for second raters who 'fell off the ladder' of advancement in the hospital service. As Figure 2 shows, the proportion of doctors in general practice under the NHS fell steadily between 1949 and 1971.

The beginnings of a transformation in the esteem in which general practice was held, and concurrent changes in modes of organisation to meet the needs of primary medical care, could be seen in the early 1960s; though, even as late as 1968, Fry and McKenzie (1968), in a survey of general practitioners, could speak of a 'crisis situation' arising out of a negative outlook and dangerously low morale among a large proportion of general practitioners who felt them-

Figure 2 *General practitioners and hospital medical staff (whole time equivalent) England and Wales 1949–71*



Source DHSS statistics

selves separated from the mainstream of medicine. However, with the growing influence of the methods of innovators like Balint (who stressed the importance of psycho-social causes of illness and the therapeutic potential of the doctor/patient relationship in itself, quite apart from sophisticated modern treatments) assessments of the state of general practice today are unlikely to be so depressing. Changes of attitudes originated among some leaders of the profession and academics but have in recent years been percolating through to the body of the profession.

In addition, the financial and organisational fillip given by the Doctor's Charter of 1966 has had an important influence on the development of a better equipped and better managed general practice. Through this the old pool system of remuneration, which encouraged large lists and discouraged employment of ancillary staff, was abolished. It was replaced by a system in which, apart from capitation fees, certain payments were related directly to services or aspects of general practice thought to require greater resources or to need encouragement. In particular, finance for improving practice premises and for employing ancillary staff, both vital elements in a modern, well-run group practice, was made readily available for the first time.

Recent developments in organisation

The 'renaissance' of general practice, such as it is, has its roots in these and many other substantive changes in how practices are run, changes which may help to realise the vast potential which lies in an effectively run and comprehensive primary medical care system. These changes also raise interesting questions as to whether the traditional working patterns of general practice have been becoming less onerous through better staffing and better management, and if so, what use has been made, and can be made, of spare capacity to develop the 'progressive' aspects of general practice.

Growth of group practice

First of all, the trend away from single-handed practice and towards group practices has enabled such work saving arrangements as 'on call' rotas to be put into practice more often. Whereas 31 per cent of practitioners worked single-handed in England and Wales in 1959 the number of single-handed practitioners had fallen to 21 per cent of the total by 1970. In addition, the number of health centres increased tenfold between 1967 and 1972. By the end of 1972 the 365 health centres operational in England still housed under 10 per

cent of all practitioners but another 438 were being built, had been approved for building or were being actively planned (HMSO 1973).

Growth of employment of ancillary staff

Group practice, and especially practice from health centres, facilitates the employment and attachment of ancillary staff. The development of the practice team has been one of the key factors which has been expanding the possibilities within primary medical care. It not only makes delegation increasingly possible but virtually demands that some effort is put into organising practice activities as well. Thus it also should have been a key factor in relieving some of the burden of traditional working problems, making possible the introduction of new and more progressive activities discussed elsewhere in this paper.

As far as non-medical staff, such as secretaries and receptionists are concerned, employment within primary medical care is not recorded routinely by the NHS but it is known that the reorganisation of financing in 1966, which enabled family doctors to recover part of the cost of employing staff, gave a considerable boost to a trend that was already under way. Thus, in 1969, Irvine and Jefferys (1971) found that 97 per cent of a sample of 576 general practitioners in Britain had at least some non-medical help. This figure of 97 per cent compares with a figure of 66 per cent found by Cartwright and Marshall (1965) in 1963.

In the case of medically related or 'paramedical' staff, such as nurses and health visitors, Table 1 shows for the same sample of 576 practitioners the proportion with those staff members employed by or attached to their practices in 1969. Forty-one per cent of the weighted total had a surgery nurse. Thirty-five per cent a health visitor, 32 per cent a domiciliary nurse and 26 per cent a midwife. These proportions will certainly have increased since then.

Viewing employment from the other side, the Department of Community Medicine, Guy's Hospital Medical School, has carried out a series of studies on the extent of attachment schemes among district nurses, health visitors and midwives employed by local authorities. In these, it was found that the proportion of health visitors 'attached' to general practice rose from 6 per cent in 1964 to 29 per cent in 1969. The corresponding figures for home nurses were 2 per cent in 1964 to 25 per cent in 1969, and for midwives, from 2 per cent to 15 per cent. The average for all of these groups was 24 per cent in 1969 (though if a 'liaison' arrangement with general practice had been classified as 'attachment' it would have been 40 per cent). There has clearly, however, been a substantial increase in attachments since then. The Chief Medical Officer of the DHSS was able to report that by October 1972 70 per cent of all

Table 1 *Percentage of doctors with medically-related staff employed or attached to their practice*

	Weighted Total	*Health Centre*		*GPA*‡		*Non-GPA*	
		England and Wales	Scotland*	England and Wales	Scotland	England and Wales	Scotland
Nurse (surgery)	41	78		63	27	26	18
Nurse (domiciliary)	32	45		43	27	23	35
Health visitor	35	65		45	43	26	22
Midwife	26	59		37	21	16	24
Social worker	3	14		1		6	
PSW/MWO†	1	20		1			
Dispenser	5	14		13		14	
Total sample		100 (152)		100 (143)	100 (70)	100 (155)	100 (51)

*The figures for Scotland were too small to give percentages
†Psychiatric social worker/medical social worker
‡GPA, doctors with group practice allowance

Source Irvine and Jefferys 1971

health visitors and 68 per cent of home nurses were working in association with family doctors in 'Health Teams' (HMSO 1973).

Employment of both paramedical and non-medical (eg secretarial) staff in primary medical care has grown considerably in recent years, but how much difference if any, has this made to practitioners' workload? Evidence here is, unfortunately, very sketchy. In the case of the practice nurse (the most commonly employed staff member, see Table 2) studies in North East Scotland came up with the finding that, on average, she saved 8 per cent of the doctor's time and that one full-time nurse could support four or five doctors. Cookson (1972) has also shown how an effective practice nurse can reduce a doctor's work. However, the relevance of these individual studies to the national situation is limited, and, in the case of other staff members, the impact on the family doctor's workload has hardly been analysed at all. Thus the extent to which time has been saved, or alternatively, the extent to which the range of practice work has been extended, must for the time being remain a matter of conjecture.

Appointment Systems

Appointment systems represent another way in which family doctors' time can be more efficiently utilised. Bevan and Draper (1967) have shown, among other things, that the doctor's overall working day is reduced by a more orderly flow of work. Wright (1968) in South West England and Williams (1970) in South Wales, have also shown that consultation rates (the major component of general practice workload) are lower among practices with full appointments systems than among practices with partial or no appointment systems. In the 1960s there was a dramatic growth in the use of appointment systems, from 6 per cent of practices using them in 1961 to 30 per cent in 1966 to a reported 64 per cent in 1972 (Royal College of General Practitioners 1973; Lloyd Hamol 1972).

Consultation rates

In addition, there is good evidence that home visiting rates, which, together with travelling, took up perhaps 40 per cent of family doctors' time in the mid and late 1960s (Royal College of General Practitioners 1970) have been diminishing over a considerable number of years. The Royal College of General Practitioners (1973) published data on home visits per patient per year among 14 practices, some going back to 1949, and all but one of the practices reported a reduction in visiting rates, averaging out at minus 60 per cent over 1949–71. The practices from which the data came were, of course, highly selected, but there is other evidence confirming the downward trend throughout primary medical care as a whole.

Table 2 *Annual home visits per person per year*

	A Fry	J Fry	P Hopkins	I Cooksen	Darbishire House	J S K Stevenson	G K Hodgkin	W W Yellowlees	M A Weller	J F C Waterston	D G Davidson	C Taylor	J M Bernstein	D R. Wallace
1949	1·0	0·9												
1950	0·8	1·0	1·0									1·2	1·1	
1951	0·7	0·6	0·7									0·9	0·9	
1952	0·8	0·7	0·7									1·0	1·0	
1953	0·7	0·7	0·8									0·9	0·9	
1954	0·7	0·7	0·7	1·3								0·9	0·8	
1955	0·6	0·8	0·6	1·2								0·9	0·8	
1956	0·5	0·8	0·6	1·2								0·8	0·8	
1957	0·6	0·8	0·4	1·3		3·2						0·9	0·9	
1958	0·6	0·7	0·4	1·2	1·4	3·3						0·9	0·9	
1959	0·6	0·8	0·3	1·2	1·3	3·4	1·6					0·8	0·7	
1960	0·6	0·7	0·3	1·1	1·2	3·3	1·7					0·9	0·9	
1961	0·6	0·6	0·3	1·2	1·4	3·0	1·7	3·9			1·4	0·9	0·8	
1962	0·5	0·6	0·2	1·2	1·3	3·0	1·7	3·9		2·4	1·3	0·8	0·8	
1963	0·5	0·6	0·2	1·2	1·3	2·6	1·8	3·5	1·1	2·5	1·3	0·7	0·8	
1964	0·5	0·5	0·2	1·1	1·1	2·3	1·6	3·5	1·3	1·9	1·1	0·8	0·7	
1965	0·5	0·3	0·2	1·0	0·8	1·7	1·7	3·3	1·2	1·8	1·1	0·7	0·6	2·8
1966	0·4	0·4	0·2	0·9	0·8	1·5	1·3	3·3	1·5	1·7	1·0	0·6	0·6	3·2
1967	0·4	0·4	0·2	0·8	0·7	1·1	1·1	3·2	0·8	—	1·0	0·5	0·6	3·3
1968	0·4	0·2	0·3	0·8	0·6	—	1·0	3·2	0·6	1·4	0·9	0·4	0·4	3·6
1969	0·3	0·2	0·3	0·8	0·4	—	0·9	3·4	0·6	1·4	1·0	0·5	0·5	3·2
1970	0·3	0·2	0·2	0·7	0·4	—	0·7	4·0	0·6	1·4	0·9	0·5	0·5	3·4
1971	0·2	0·1	0·2	0·5	0·4	—	0·6	3·2	0·5	1·0	0·8	0·4	0·3	3·3
Trend 1949–1971	% −80	% −90	% −80	% −61	% −71	% −70	% −60	% −18	% −66	% −58	% −43	% −66	% −73	% +18

Mean trend reduction −60%

Source Royal College of General Practitioners 1973

In the case of surgery consultations, representing perhaps 45 to 50 per cent of family doctors' workload in terms of time, the evidence is not quite so clear cut. The same publication of the Royal College of General Practitioners sets out data indicating an average reduction of 15 per cent in consultation rates between 1949 and 1971 in selected practices, but there is at least one plausible explanation of this, relatively small, apparent reduction in workload. A number of surveys have shown how the older and more experienced the doctor the lower tend to be his consultation rates. (Wright 1968; Williams 1970; Morrell, Gage and Robinson 1970). It could have been that the decrease in consultation rates was a function of the recording doctors growing older. On the other hand, there is more convincing evidence of a general drop in all consultations, including surgery consultations, from the results of the recent national morbidity survey carried out by the Royal College of General Practitioners (HMSO 1974). The survey practices which made returns for the year 1970–71 recorded 301 consultations overall per 1,000 patients on their lists. This compares with 374 consultations per 1,000 found in a similar morbidity survey conducted in 1955–56 (HMSO 1958). The proportion of persons consulting at least once was very much the same in both years. The two survey populations cannot, of course, be assumed to be representative of general practice as a whole at their respective times but nevertheless the drop of 20 per cent in consultation rates lends a great deal of support to the view that general practitioners see their patients less often in the 1970s than they did in the 1950s.

In summary, therefore, the trend towards group practice, the employment or attachment of more ancillary staff and the dramatic increase in the use of appointment systems are all changes which should have opened the door to more effective use of available time in recent years. In addition there is good evidence of a general reduction of workload in home visiting (a trend which may be explained, in part at least, by the changing pattern of disease from acute infections to chronic conditions) together with suggestive evidence that the rate of consultations overall has been dropping as well. All these developments could on the face of it be exploited to provide new and better services for patients and undoubtedly this has been taking place in a large number of practices. However, at the same time, some disquieting trends have been becoming increasingly evident, suggesting that in some practices workload is being minimised to the detriment of patients and the efficiency of health services. For example, there is a general belief, though no well documented quantitative data exist to support it, that family doctors

Table 3 *Action taken by general practitioners on certain procedures: from a sample of 421 practitioners surveyed in 1964*

Undertakes procedure in their practice:	*Strap sprains*	*Excise simple cysts*	*Open abscesses*	*Stitch cuts*	*Do vaginal examination with speculum*	*Estimate haemoglobin with a haemoglobinometer*	*Use of laryngoscope*
	%	%	%	%	%	%	%
More often than not	80	29	52	60	60	12	9
Occasionally	18	33	42	34	28	15	26
Never	2	38	6	6	12	73	65
Number of Doctors (=100%)				421			

Source Cartwright 1967

no longer perform minor surgery or treat minor casualty cases to the same extent as they did before the war, but instead allow such work to find its way to hospital casualty departments. The belief is strengthened by commonly reported findings that a very large proportion of hospital casualty departments workload need never have come there.[4] As far back as 1960 an analysis of casualty work in eight hospitals showed that only 30 per cent of the work was outside the range of a general practitioner or nurse (Nuffield Provinciale Hospital Trust 1960).

This phenomenon may be partly caused by the failure of a proportion of people to re-register with any family doctor after a change of address. But it has also been connected with possible misuse of appointments systems. Thus the Chief Medical Officer of the DHHS (HMSO 1972), pointing to the 50 per cent increase in new patients seen at hospital accident and emergency departments between 1959 and 1970, said that hospitals in several regions attribute this, at least in part, to the operation of some appointment systems making it difficult or even impossible for patients to see their own doctors at short notice. In the same report the Chief Medical Officer pointed to the rapid growth of deputising services over the past 10 years. He estimated that about one third of family doctors make use of deputising services and remarked that although they provide useful relief to single handed doctors and small practices it may be that some practitioners have not appreciated the disadvantages to their patients of the complete loss of continuity of care involved in this type of deputising arrangement.

Workload patterns

Thus at the very time when the potential of the primary care system in Britain appears to be greater than ever before, there remain areas where new benefits are not being realised while old services are actually being eroded.

With more information it might be possible to illustrate the quality of primary medical care in Britain in the form of a statistical distribution. Practices which have not taken advantage of changing patterns of workload for the benefit of patients would be at one end of the distribution and those which have taken full advantage would be at the other. The latter practices, which are exploiting changes for the benefit of their patients, are likely to have accepted the challenge to contain their pre-existing workload within a smaller

4 The only data that gives any indication of the extent to which family doctors perform minor procedures is shown in Table 3. The figures relate to a random sample of 421 general practitioners interviewed in 1964.

proportion of time available. They will have used their 'spare capacity' to develop expertise in those areas where comprehensive primary medical care is likely to be the most productive in the future, areas like preventive medicine, including screening where appropriate, family planning and even minor surgery and the treatment of minor accidents now often sent to hospital casualty departments. Or, following the methods of Balint they may have used 'spare capacity' to enquire in greater depth into the psychosocial background to patients' complaints in the hope of reaching and perhaps altering the primary causes of illnesses. They may have increased their work in hospitals or alternatively, they may have extended their paid and unpaid professional activities outside the NHS. Irvine and Jefferys (1971) found that the majority of the 576 general practitioners they surveyed had outside professional interests ranging from insurance company examinations to service on local medical committees. An increasing number of practitioners also spend a great deal of time on research activities. At present, however, the proportion of practices at either end of any such statistical distribution must be a matter of speculation.

It may be held, of course, that the workloads of particular practices are dependent on variables that are beyond the doctor's control, like the amount of illness in the community, or the propensity to consult among patients. Differences in the amount and range of services performed, in that case, must be expected and are not necessarily indicative of variation in quality of care between practices. However, even a cursory examination of the way in which workload is generated will leave the clear impression that the amount and type of activities undertaken within primary medical care is capable of being controlled to a very large extent by the suppliers of services themselves. The family doctor can effectively modify the demand for the services he provides.

It may also be held that even if variations in activity and workload are not primarily consequences of varying patterns of underlying demand (such as morbidity rates and the propensity to consult) they may nevertheless simply represent a range of equally acceptable modes of primary care among individual practitioners, none of which are demonstrably 'better' or 'worse' than others.

However, given that family doctors are able to control their workload to a considerable extent according to their subjective conception of what primary medical care involves, it seems most unlikely in this situation that real variations in quality of care provided by individual practitioners would not arise.

There is a considerable body of evidence suggesting that practitioners do exercise control over workload levels. Thus Cartwright (1967) found that 40 per cent of consultations reported by a national

random sample were felt by them to have been initiated by the doctor. A very large number, if not most of these, would probably have represented repeat prescriptions where the patient merely comes back for some more of the medicine he was originally prescribed, together with assessment and advice on dosage, and this is perhaps the area where there are the most telling reasons for believing that doctors largely determine their own workload. Thus, Dunnell and Cartwright (1972) found that as many as 65 per cent of a sample of prescriptions given to their nationally representative sample of patients were for medicines which they had had prescribed before. There can be very large variations in workload stemming from differences in coping with this aspect of general practice. Doctors may on the one hand invariably re-examine and reassess patients whenever medication is renewed. They may spend a large amount of time balancing the wanted and unwanted effects of effective but toxic medicines or on the other hand may simply delegate to a receptionist the job of repeating prescriptions on request.

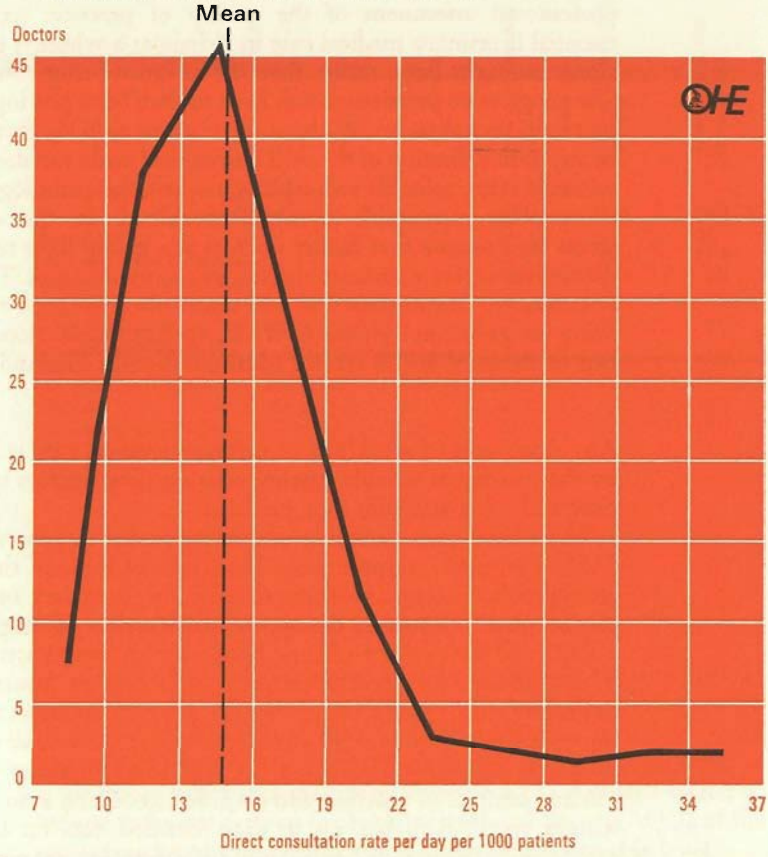
Even in those cases where consultation appears to the patient to have been initiated by himself there is little doubt of the doctor's influence. Although the decision by a patient to consult (thus altering workload) can be swayed one way or the other for, apparently, quite trivial reasons (see, for example, Robinson 1972) the patient's behaviour is nevertheless conditioned very strongly by the sort of reaction he has come to expect from his doctor.

Figure 3 shows the very wide distribution of consultation rates among general practitioners in North East Scotland. The authors of the study, which achieved a response rate of 57 per cent, commented 'Probably the strongest impression all of us are left with is the wide variation between general practitioners in the quantity of work they do. This must be largely due to the attitudes of patients and this in turn will depend, amongst many other factors, on what patients have come to expect of their personal doctor. While clearly much has yet to be learned in this area, our findings point strongly towards the doctor himself as a major source of variation in consulting rates'.

Analogy with the hospital services certainly lends support to the notion of the family doctors, as the suppliers of services, being the major determinant of workload. In the much better documented hospital sector there is a considerable body of literature demonstrating that a large proportion of work is done unnecessarily and that work expands to utilise whatever resources are available. It seems not unreasonable that if a form of Parkinson's law operates in the hospital sector, it might also operate in other areas of the health service, especially in a sector where the major item of workload, surgery consultations, seems so infinitely elastic.

If the analogy is valid then there is a vast potential for benefit in

Figure 3 *Direct consultations rates per 1,000 patients per day among 142 doctors in North East Scotland 1969–70*



Source I M Richardson, D Durne, J G R Howie, G Gill, I Dingwell Fordyce. A study of general practitioner consultations in North East Scotland. *Journal of the Royal College of General Practitioners* 1973, 23, 132

the reallocation of medical time with the aid of ancillary staff and modern organisational devices like appointment systems, and equal potential for harm if the reallocation of time is done inappropriately. Furthermore, the fact that family doctors can and do ration their services and their availability to patients, depending on their own circumstances and their attitude to their job, argues very strongly for some sort of guidelines to be laid down either by the DHSS or the medical and paramedical professions, specifying at least the major elements of comprehensive primary medical care. Such guidelines could not define the 'correct' level of consultations or other measures

of workload (even if 'correct' levels applicable to every practice existed at all). But some form of monitoring, and the possibility of professional assessment of the quality of practice, seems to be essential if primary medical care in Britain as a whole is to advance along the right lines, rather than the advance being confined to a few progressive practices which have to date been playing a leading part in its revitalisation. Without this it seems unlikely that there will be any rationalisation of the well known and wide variations in consultation rates, referrals to hospitals, requests for pathology tests and every other measurable aspect of workload. In this context it seems unfortunate that family doctors as a group have retained for themselves separate status under the NHS reorganisation. The Family Practitioner Committees will deal direct with the DHSS rather than being integrated in the new Area Health Authorities along with the rest of the local health service administration in England Wales.

Working time within primary medical care

Any discussion of workload in primary medical care is bedevilled by the paucity of reliable baseline data on how doctors spend their time and what activities they perform.

There have been a number of activity studies in general practice. Table 4 on page 21 summarises the results of some of them which attempted to measure working time in the 1950s and 1960s. They can be used to illustrate the approximate orders of magnitude involved and the division of time between very broad activity areas. They indicate that practitioners work about 40 hours a week, excluding time on call which can range up to 80 hours a week or more depending on practice circumstances. However, all the studies in Table 4 were either based on individual practices or highly selected samples of practices and on different criteria as to what constitutes work. Reliable, up to date, detailed data on the sort of activities that a representative sample of practice teams perform, and the proportion of working time taken up in performing them, do not exist. It was in part to try to fill some of the information gap that OHE sponsored a study of working patterns among family doctors and their teams. The study (carried out by Felicity Carter under the supervision of Dr Brian Peacock of the University of Birmingham) is described in detail in Appendix 1. It did not achieve a sufficiently high response rate for its results to be used to build a representative model of working patterns in British primary medical care. However, it did demonstrate the value of a particular method of statistical enquiry and it also raised some interesting possibilities, for example, that the 40 hours a week suggested by previous workload studies may significantly underestimate average working times, at least among more progressive and conscientious practitioners.

Table 4 *Percentage of time spent by family doctors on main activities*

	Surgery consultations	*Home visits including travelling*	*Administration and other activities*
Crombie and Cross (1953–54)	44·1	39·5	16·4
Wood (1956)	14	60	26
Mair and Mair (1957–58)	48·8	33·9	17·3
College of General Practitioners (1964–65) (370 practitioners)	44·8	45·9	9·3
College of General Practitioners (1964–65) (134 practitioners)	48·7	34·9	16·4
Eimerl and Pearson (1965)	43·0	40·1	16·9
Hodgkin and Gillie Dr A.	40·0	40·5	19·5
1965–68 Dr B.	46·1	38·7	15·2
McDonald and McLean (1967–68)	43·8	39·5	16·7

Source Compiled by Carter 1973

The quality of primary medical care

As a starting point for a discussion of quality in relation to workload it is interesting to look at an atypical practice set up described by Fry (1972). This is a South East London suburban practice in which Fry reported providing primary medical care for a population of 4,500 (more than twice the national average) of a standard which he judged to be satisfactory for both patients and doctors, while at the same time keeping working hours down to a reasonable level.

He also reported over a period of years, increases in workrates for preventive procedures, 'such as immunisation, antenatal care, cervical cytology and child welfare' with decreases for degenerative conditions 'including rheumatic, cardiovascular and central nervous systems and those affecting the skin and gastrointestinal tract'. Referrals to specialists also fell by half.

In an accompanying editorial (*Journal of the Royal College of General Practitioners* 1972A) the review was described as a challenge to those of Fry's contemporaries who accept the conventional wisdom that the number of patients per practitioner ought ideally to be around 2,000 and certainly no more than 2,500. As the editorial went on to say, the challenge is a fundamental one because all current planning for education, future manpower needs, attachment

ratios and so on are based, either explicitly or implicitly, on the assumption that the number of patients per practitioner ought to be around 2,500. If it is, in fact, possible for general practitioners, together with their teams, to provide comprehensive primary medical care for 4,500 patients each, then the inference is that there are twice as many doctors in primary medical care as are needed at present, and that the first priority is not increasing their numbers but organising and training a hard core of highly competent practitioners equipped to perform a highly intensive role.

The crucial question that is raised by Fry's review is, of course, the question of quality. Since surgery consultation rates declined in Fry's practice and home visiting rates dropped considerably, it may be asked how this was achieved and whether it was really possible to weed out selectively the unnecessary or marginally useful work without at the same time trimming some of the important aspects of primary medical care. More important, could other practices throughout the country be expected either to extend their list sizes or to reduce time consumed from looking after the same list size, without detriment to the quality of care?

Unfortunately, health service research methods have not yet reached the stage at which they can even satisfactorily define, let alone measure, quality (or effectiveness) in general practice. Literature on general practice is only just emerging from a stage characterised by somewhat indiscriminate data collection and descriptive work and although a more selective and analytical approach has recently been advocated (see for example Honigsbaum 1972; Marson *et al* 1973) the present gropings of commentators and research workers towards an adequate definition and measurement of quality have not been convincing.

Although many of the final outcomes of primary medical care, in terms of benefits to patients, are capable of being measured, there have as yet been no published studies which have comprehensively tackled the question of quality on this basis in particular practices. The benefits which primary medical care bestows on the population, and more importantly, the variations in benefits from different practices, remain almost wholly unmeasured and unknown. The only parameters of general practice which have been satisfactorily measured are characteristics like list size, consultation rates, ancillary staff employed, appointments systems and so on. These can be described as measures of 'activity' or, in some cases, measures of 'efficiency'. If the question is then posed, 'do practices with certain levels of "activity" or certain degrees of "efficiency" provide care of higher or lower quality?,' the answer is likely to be tautological because these same measures also represent the elements of the only working definitions of quality that have been developed to date.

A good example of the use of practice characteristics as surrogate measures of the 'quality' of care can be found in a report of an enquiry into general practice in the London Borough of Camden (Sidel *et al* 1972). It includes a list of the elements which, in aggregate, made up the author's working definition of quality of care in general practice (See Appendix 2).

There are some surprising omissions in this particular list; for example preventive work, antenatal clinics and the provision of family planning services are all measurable and, arguably, very important aspects of good general practice but they do not appear on the list. However, more fundamentally, none of the variables listed measure directly the amount of benefit derived by consumers of primary medical care. They are better seen as assumed preconditions of good quality medical care, or as variables that might be expected to be correlated with the quality of care.

Further discussion of direct measurement of benefits to patients can be left aside until the next section. However, it is interesting to look at those practices whose 'quality' (as measured by practice characteristics) may be deemed high, in order to see how workload and working patterns differ from those of practices of average 'quality'. Some comparison is possible using data from a survey of teaching practices (Irvine 1972) and data from a representative sample of all general practitioners (Irvine and Jefferys 1971) on the premise that 'quality' in teaching practices is above average and 'quality' in the representative sample is at the average. The survey of teaching practices took place in 1970 and covered 190 doctors. The representative sample survey took place in 1969 and covered 576 practitioners.

As might be expected, practitioners from teaching practices had fewer paid outside appointments (such as insurance company examinations) than practitioners at large. Only half of the teaching practitioners had one or more such appointments as compared with 80 per cent among general practice as a whole.

As might also be expected, practitioners from teaching practices were more likely than average to devote time to voluntary work for professional and other medical organisations. Sixty-nine per cent of them did some voluntary work compared with only 42 per cent found among general practitioners as a whole.

Perhaps one of the most interesting findings in relation to Fry's (1972) claim to provide sound care for 4,500 patients is that teaching practices do not appear to allot any more time to each consultation than ordinary practices. One of the commonest criticisms of British general practice is that consultations are too short and hurried yet 31 per cent of the teaching practices, which may be presumed to embody the best modes of operating, saw 12 or more patients per

hour during consultation sessions and another 33 per cent saw between 9 and 11. Fry himself reported dealing with 9–10 an hour.

With regard to list size, none of the teaching practices reached Fry's 4,500 patients per practitioner but at least, despite their extra teaching duties, average list size was no nearer than general practice as a whole to the figure of 2,000 so often put forward as a desirable objective on the assumption that pressure of work is too great at present list sizes.

The objectives of primary medical care and the role of practitioners

What are the objectives of primary medical care? What are the roles of practitioners operating in the field and which ought to be given higher priority? Until the fundamental issues raised by these questions are resolved, at least to some extent, it will not be possible to define or to measure consistently 'quality' or 'effectiveness' in primary medical care. It is on answers to these questions as well that educational and manpower decisions (relating to how many and what sort of practitioners we need and what sort of work they are expected to do) should ultimately rest.

This paper is not the place for a comprehensive discussion of objectives and roles. The Todd report on medical education (HMSO 1968), the Davies report on the organisation of group practice (HMSO 1971) and the BMA planning unit's report on primary medical care (BMA 1970) together contain an exhaustive exposition of current thinking on the nature of primary medical care.

However, assuming that the generalist doctor of first contact will continue to form the basis of medical care in Britain, it is useful to summarise the possible roles of such doctors and their practice teams in order to illustrate their fundamental implications in relation to workload. Two interconnected but essentially distinguishable roles can be picked out. First there is central role of prevention, diagnosis and treatment; then, subsidiary to this, what might be called the 'pastoral' role of providing sympathy, understanding and advice, extending as far as a frank 'social work' role in a proportion of cases. In addition, there is the key function of sorting patients according to the components of their problems, in order to determine which of these roles are appropriate in the particular case. During each consultation, the question may be asked, is the problem one for the practice team as medical technicians, or is it a problem which concerns members of the team in so far as they are prepared to act as confidants or as social workers? If acting as medical techni-

cians, is the problem one where the patient could expect to benefit by the investment of a large amount of the practitioner's time? Should the patient be treated or referred to the hospital sector? If the patient's problem is primarily personal rather than medical, should advice be given or should the problem be ignored? If personal and social problems are severe, what sort of aid, if any, should the practice team take it upon themselves to give? Should they instead, refer all frank social pathology that comes to their notice to experts in the local authority social service departments?

Answers to these questions could have profound consequences for working patterns in primary medical care. The extent to which there can be held to be too few or too many family doctors and the extent to which they are or are not spending their time purposefully, depends on how much priority would be given to each of the roles in an ideal job specification for the family doctor and his team.

On the one hand, the doctor in the primary care team could be seen, to the exclusion of all else, as a medical technician who is expert at recognising and either preventing, treating or referring a range of medically well defined conditions which benefit from intervention. This could be seen as the core of the practice's work and the value of supporting members of the practice team could be measured by the extent to which they help the doctor to fulfil this role, regardless of any other problems they uncover in the course of their work.

The Todd report (HMSO 1968) while by no means ignoring the many other aspects of primary medical care, tended to favour something close to this first archetype by emphasising the predominantly technical role of the family doctor. The report stated, 'As progress in science and technology continues, attitudes to doctors, as towards members of other professions, are likely to move still further in the direction of regarding them as experts to be called in to prevent, investigate and remedy specific functional defects rather than as members of an elite who are accorded a special status by virtue of their general background and qualifications'. . . 'The leadership which the doctor often has to exercise has sometimes in the past appeared to be based on the assumption of a charismatic authority which has already ceased to be convincing and in the future will be completely inappropriate. The basis of the doctor's leadership will be his superior knowledge of the central facts of the clinical situation, his ability to exercise a decisive influence on the patient's illness and his capacity to guide and co-ordinate the work of others whose co-operation is essential'.

The spirit of this is to emphasise the priority of the technical role over any 'pastoral' role that the doctor and the practice team may also fulfil. The crucial question here is, what are the conditions that

merit identification and medical intervention. If the needs of the population were quite narrowly defined as being specifically 'medical' needs, where the knowledge and the technology for effective intervention are available, then the possibility of providing a satisfactory primary medical care system with far fewer practitioners than at present is quite a real one, even if the range of routine screening and early diagnosis and treatment expands to a very considerable extent, as it seems certain to in the 1970s and 1980s.

However, it could be argued that the so-called 'pastoral' role, where members of the practice team involve themselves with the personal problems of patients who ostensibly consult for medical reasons, is a key role which can justifiably demand a large share of practice time. This would be in keeping with the WHO definition of health as a state of complete social, mental and physical well being.

Most would agree with the proposition that the clinical and social aspects of medical care cannot normally be separated, and the work of sociologists like Robinson (1971) have shown convincingly how the two aspects are inseparable in the patient's mind when deciding whether to consult or not. There are few also who would deny that doctors in primary medical care should have an understanding of the basic tenets of the behavioural sciences and of the way in which an individual's circumstances may alter the way he presents his condition and the way he reacts to treatment. However, on the one hand such knowledge could be used in the diagnostic process simply to sort out those cases where problems are essentially personal and where medical intervention is held to be inappropriate. Or, having accepted that the problem is strictly 'non-medical' the practice team may nevertheless wish to concern itself with, for example, the job problems of the person who consults primarily in order to obtain a medical certificate, or the frustrations of an individual whose loneliness is at the root of symptoms presented at the doctor's surgery.

At present a large part of the implicit role of most practices is to provide understanding and advice over a wide range of issues that are brought to them in the context of primary medical care. It seems, in so far as the results of attitude surveys can be trusted, that there is a strong demand for this sort of relationship. Varlaam *et al* (1972) found that between 40 and 50 per cent of respondents said they would consult a doctor over serious personal problems while only 30 to 40 per cent said they would talk to nobody or a friend only and 20 per cent said they would talk to another professional person. If this is adopted as an integral part of primary medical care then there are major workload implications in view of the potentially vast extension of working time to listen to and give advice on primarily personal problems. Whether it is performed by the doctor

or by nurses, health visitors or other members of the practice team, acceptance of the role is likely to strain existing resources.

In addition, to the followers of Balint, primary medical care is inseparable from the psychosocial situation of the patient, and, in so far as the objectives of 'whole person' medicine are accepted as central to British general practice this is likely to have an even more fundamental effect on workload, leading to further pressure for more doctors.

In part the 'pastoral' role of providing understanding and advice must be paternalistic and as such is likely to become increasingly inappropriate in a highly educated and less class structured society.[1] But, on the other hand, there are many ways in which the strictly 'non medical' aspects of primary medical care can be developed to the real benefit of patients, which are compatible with a relationship of general equality between doctor and patient.

Reassurance, for example, does not have to be paternalistic and, as the Kaiser Permanante scheme in the United States has found, reassurance of the 'worried well' can form large part of the workload of a highly developed primary medical care system. Nor, it could be argued, are the 'caring' aspects of primary medical care likely to become less appropriate in an increasingly sophisticated society. Indeed, the opposite is probably more likely. There are many situations where there is little or nothing that medical intervention can do to alter the natural course of illness but where there is nevertheless a strongly felt need for care. Such situations include much of the care of the aged and dying, the chronically sick and the handicapped. They make up a large part of the workload of general practice but could potentially make up much more.

Finally, there is the 'social work' aspect of primary medical care. This can be seen as a small subset of the 'pastoral' or 'understanding and advice' role. Seventy per cent of people go to see their family doctor in the course of a year. A large proportion of them bring their personal problems to the surgery in one way or another. In a small proportion of cases the problems, real or unreal, appear so severe as to be unmanageable by the individual or family themselves without outside support. The number of people involved is small but the amount of time required to deal with their medical and quasi medical problems may be disproportionately large. How far it may be asked, should the practice team involve itself with this frank social pathology? If it is the concern of primary medical care

1 So too is the important and often quite time consuming role of social control likely to become increasingly inappropriate. 'Social control' in this context can include the certification of sickness, which often includes elements of economic and moral as well as medical judgements. It can also include the provision or non provision of family planning advice or abortions. Here too medical advice often has strong moral overtones.

to a greater or lesser extent then, similarly, to a greater or lesser extent there will be pressure on existing resources, requiring adjustments to patterns of work.

Of course, it is necessary for the doctor in primary medical care to appreciate the links between bad housing, unstable home conditions, poor education, etc, and ill health. It is also important for family doctors to recognise severe underlying social problems when they present as ill health. But it is very questionable whether the family doctor and his medically orientated team are the right people to intervene directly in any but the strictly medical aspects of such cases. Medical and paramedical professions, it can be argued, are not qualified in this area.

It may even be held that there is a danger of them masking the real social and economic causes of distress by defining the problems of the individuals concerned as medical ones, susceptible to medical treatment. Furthermore, in that doctors purport to be uniquely capable of resolving situations which involve ill health, they may form a barrier to a more appropriate form of intervention, for example from the local authority social service departments.[1]

This paper does not attempt to define the respective roles of family doctor teams and the social service departments in that blurred area where medical and social problems overlap and aggravate one another. However, it is worth drawing attention to the fact that for some time there have been the makings of a professional demarcation dispute. The issues involved will need to be debated openly and resolved before it is possible to define an ideal job specification for primary medical care and make rational manpower and planning decisions on the basis of it.

Examples of workload limitation

When looking at all these ways in which the range of primary medical care could be significantly extended from its strictly 'medical' core, it is interesting to note that they all represent aspects of work which were probably minimised in the practice described

1 The Seebohm report accepted the advantages which would follow from teamwork bringing doctors and social workers together but pointed out that primary medical care, and the practitioners operating in it, were not equipped for supervising social work. This led to development of separate social service departments whose personnel have exhibited a strong tendency to reinforce their professional autonomy. It is unlikely that they would favour the spirit of such reports as that on the organisation of group practice (HMSO 1971). This report recommended the attachment of more social workers to group practices. In doing so, it suggested that the social worker should be an equal member of the community care team. However, in reality doctors see themselves as natural leaders of practice teams and any trend towards attachment of social workers would inevitably lead the medical personnel involved to see themselves as assuming overall responsibility for the social work activities of attached personnel, thus further limiting the amount of time available to be spent on other activities of primary medical care.

by Fry (1972), with its 4,500 patients per practitioner.

In his review Fry pointed out that over 21 years in his practice there were 'reductions in attendances for the more chronic and degenerative conditions, possibly because of better therapeutic methods or because of changing attitudes of the doctor seeing these persons less frequently'. If the truth lay largely in the latter then Fry's workload reductions would represent, at least partly, a deliberate switch of emphasis away from the caring function of general practice and, presumably, towards those aspects of general practice which are more productive in a specifically medical sense.

Fry also said of his practice 'dramatic psychosocial emergencies have all but disappeared'. It may well be argued, however, that should an attempt be made to find them there will be no shortage of 'dramatic psychosocial emergencies' to contend with. The desirability, therefore, of Fry's workload reduction, it may be held, depends on the priorities thought appropriate to the 'caring' function and what is described here as the 'pastoral' function of primary medical care. To the extent that these are given high priority throughout primary medical care as a whole, workload reduction will be difficult to achieve without detrimental effects. There would consequently be good arguments for maintaining or expanding numbers of practitioners.

On the other hand, a workload reduction of the type described by Fry may be held to be desirable to the extent that the major role of general practice is defined as the provision, at the convenience of the doctor, of that range of intervention (within the capacity of a family doctor) which has a high probability of being effective in modifying clinically definable disease processes.

There are probably few family doctors who would be able to restrict their activities to such a large extent without incurring resentment and dissatisfaction among patients. There may be few also who could perform efficiently the critical diagnostic or 'sorting' function of primary medical care, especially at times of peak demand, if the health problems of 4,500 persons had to be dealt with in the working time of one practitioner.

Studies such as the Birmingham study (Appendix 1) suggest that many of the more conscientious practitioners would be vary hard pressed if they attempted to increase their list size to this level.

However, some recent research in a Teesside practice in 1972 (Marsh and McNay 1974) does provide confirmation of the view that even in an area of high morbidity and mortality workload can be kept low and list size kept high without apparent detriment to the standard of care. The research concerned a 'single handed' practitioner operating under the umbrella of a group practice with its paramedical team. Among the 3,137 patients (a considerably higher

than average list size) there were found to be 2.3 doctor consultations per patient per year, about half the national average. The overall consultation rate for the team of doctor, nurse and health visitor was 3.1. The authors, while pointing out that as yet no acceptable and defined standards of quality in primary medical care have been worked out, were not of the opinion that the low workload was achieved at the cost of a poor standard of general care. They maintained that where a doctor and his patients know and trust each other and where delegation of work to paramedical staff is accepted practice it is quite possible for the doctor to reduce considerably follow-up consultations. Where patients are known, an experienced practitioner 'need only follow up those illnesses where the patient cannot determine for himself whether he is recovering or not, or where a severe or chronic continuing illness must be monitored'. If a doctor is thus able to give back to patients much of the responsibility for monitoring their own short term illnesses, and if part of the remaining workload is taken by responsible paramedical staff, then the way is clear for the doctor to concentrate his attention on thorough assessments of illnesses at their outset and on new patients when they first consult.

The conclusion drawn by the authors was that measures to reduce workload in the Teesside practice helped to make more personal care possible and in turn the emphasis on personal care made the introduction of work saving measures possible.

They went on to suggest that average list size of 2,400 patients will rapidly become too small to occupy the time of established practitioners. For a majority 'an increase in list size would be necessary to satiate their clinical interests'.

It is interesting to note in this study the emphasis placed on the idea of 'single handed' practice within the umbrella of a group. This mode of organisation allows the advantages of personal care and the availability of ancillary staff to be combined. It was the personal aspect of care and intimacy with a defined group of patients which was seen as the crucial factor allowing workload to be reduced. If this is the case generally then it may be expected that group practices whose doctors do not retain separate lists would have less potential for reducing workload. At the extreme, a practice on the American model where the doctor of first contact is a specialist may have very little potential for workload reduction at all. This also suggests that comparisons between average consultation rates and length of consultations in America and Britain, which are often thought to reflect badly on Britain, may be totally inappropriate as measures of the standard of patient care.

Operational objectives

Bearing in mind the uncertainty surrounding the ideal roles and the appropriate areas of concern for the family doctor and the practice team, it is hardly surprising that operational objectives are hard to define. In the very broadest terms there are perhaps two approaches which might be explored. First of all, the central operational objective could be the satisfaction of consumers' demands. Alternatively operational objectives could be defined in terms of specific services which have been demonstrated to be of value in some objective way. From these, it may be possible, ultimately, to develop some clear cut criteria which could be used to assess the performance of primary medical care. If this could be done then it would be possible to establish which of the elements of primary medical care are productive of the greater benefits for patients. This could, in turn, facilitate the definition of a model job specification for the practice team.

The satisfaction of patients' expressed wants

The first approach, the extent to which primary medical care satisfies patients' wants as they see them, is probably the least helpful. It is generally accepted that the satisfaction of all demand, with totally free and unconstrained access to medical advice would be quite out of the question. The propensity to consult is, if not infinitely elastic, capable of expansion to such extent as to overwhelm general practice even if the number of practitioners were doubled or trebled. There is evidence that, with increasing expectations, the threshold of tolerance to illness is dropping and many surveys (for example, Wadsworth *et al* 1971) show that as many as 95 per cent of people will report some symptom during a fortnight, demonstrating the extent of ill health that could eventually manifest itself as demand for medical consultation.

Some form of control, therefore, is inevitable. It can take the form of rationing hours of free access, or the use of appointment systems or trying to impress on patients what is or is not a reasonable justification for medical consultation. Given that such control is inevitable, the objective of 'satisfaction of demand' must in practice be modified to 'satisfaction of an arbitrarily defined level of demand'.

It is necessary, therefore, for preferences to be expressed and for the satisfaction of some demands to be given higher priority than the satisfaction of others. This is the normal economic process which governs the distribution of resources. However, in the case of health care an element vital to rational choice is missing. For the most part consumers' knowledge of the value of services they are receiving,

and the possible alternatives, is inadequate. In the context of current democratic philosophy it is important that consumers should be able to influence, in their own localities, the way in which medical services are provided as well as the broad aims and objectives of health care. However, as regards the specific content of primary medical care, there is a very large area where non expert consumers can not be expected to distinguish between more beneficial and less beneficial options.

Most of the evidence suggests that consumers of medical care are undiscriminating. There seems to be strong tendency for people to report that they are satisfied with whatever they are getting. Thus surveys consistently find a feeling of general satisfaction among patients while equally consistently professional observers have no difficulty at all in pointing to serious short-comings in the scope and efficiency of much primary medical care in Britain.

Two particular examples can be given which could be interpreted as showing the inability of the public to discriminate between good and bad in the provision of medical care. The first concerns appointment systems. The Harris Poll (*Journal of the Royal College of General Practitioners* 1972B) found that 63 per cent of a large sample of people preferred appointments and 31 per cent preferred waiting their turn in the waiting room. On the face of it this might seem to suggest a majority in favour of appointments but a more detailed analysis of the results from a similar question by Cartwright (1967) revealed that 80 per cent of people with appointment systems liked them and 72 per cent without appointments did not want them brought in. In other words, there was a large majority, in both cases, in favour of the *status quo*. It seems unlikely that decisions to opt for or against appointment systems would in many cases represent a response to the expressed wishes of patients.

The second example comes from a study of patients' opinions stemming from the study of general practice in Camden mentioned elsewhere. In this Varlaam *et al* (1972) found that single-handed doctors gave as much satisfaction and inspired as much confidence in their patients as doctors in partnership, even though the doctor in partnership would have scored much more highly in conventional measures of 'quality' of care. Either the measures of quality are not valid, which is quite possible, or the public were in this case undiscriminating. The conclusion to be drawn, tentatively, is that there seems little to be gained at the strategic planning level from using people's expressed preferences as indicators of what sort of primary medical care ought to be provided to meet the needs of the population, at least not when these views are ascertained by means of attitude surveys at present in common use.

The performance of specific services

The other approach to developing an ideal job specification for primary medical care involves taking those elements of practice work whose effects are susceptible to objective measurement and finding the extent to which the desired effects are achieved. In the United States, measurement of certain aspects of medical care, through medical audit, is already commonplace.

This means of evaluation is primarily applicable to hospital services. It may involve the comparison of survival rates achieved by individual practitioners or the inspection of surgically removed material in order to ascertain the proportion of cases in which the diagnosis leading to surgery was correct. In the case of primary medical care, the potential of medical audit is more limited. The life and death dramas and the serious acute illnesses, which provide the relatively clear cut data for medical audit among specialists in the United States, represent only a small part of the work of primary medical care. The family doctor deals with much more nebulous states of ill health where the natural course of the illness and the effect of intervention tend to be insufficiently well defined to measure. Any extension of routine measurement to primary medical care would, therefore, by no means be comprehensive. It would have to concentrate at this point of time on a few medically well defined areas while ignoring the 'caring', 'pastoral' and 'social work' aspects of primary medical care.

However, the prevention, diagnosis and treatment of serious ill health is at the core of health care and there is no reason why the small number of existing known means of evaluating good and bad care should not be applied as a matter of routine to the work of practice teams. In the past there have been occasions on which the performances of family doctors have been implicitly measured and compared with an expected level of performance. These occasions include the confidential enquiries into maternal mortality and postneonatal mortality. The enquiries analysed the factors leading up to a sample of deaths. It is just this sort of analysis which can ascertain the causes of success or failure and establish which are the vital procedures which ought to be built into the practice team's job specification in order to attain a desired objective. Furthermore, clinical independence need not be threatened. The confidential enquiries did not aim to condemn these doctors whose performance might have been improved. Instead, they were seen as joint educational exercises in self evaluation and were welcomed by doctors as giving an opportunity of learning from past errors or oversights.

An interesting contribution to the literature on evaluating primary medical care was published recently in the *Journal of the Royal College of General Practitioners* (Hodgkin 1973). In the paper Hodgkin

described the use of 'delay pattern analysis' as a means of measuring the quality of care, establishing the roots of inefficiency in dealing with certain specific disease conditions and pinpointing necessary changes in working patterns. In those cases where early diagnosis and treatment is known to improve the chances of a good prognosis, the shorter the delays the better. As illustration, Hodgkin presented the statistical distribution of delays occuring in his own practice in the process of consultation, diagnosis and institution of treatment for a number of serious conditions.

His results indicated, for example, in the analysis of patient delay before consultation, that in the cases of myxoedema, ectopic pregnancy and carcinoma of lung and breast, patients were reasonably aware of the need to report early. In carcinoma of the colon and rectum, however, delays before consultation were long, indicating a need for patient education. In the case of delay between consultation and correct diagnosis, Hodgkin suggested that carcinoma of the breast was the only disease in which diagnostic performance was reasonably rapid. There was considerable delay in diagnosis among a proportion of cases later proven to be carcinoma of the rectum or colon. Among ectopic pregnancies, delay patterns suggested that too little effort was concentrated on diagnosing the condition before rupture occurred.

Measures like these are still essentially measures of activity rather than benefits to patients. However, for serious illness the diagnostic or 'sorting' process is the key function of primary medical care. Here, delay patterns could provide worthwhile, if limited, surrogate measures of quality. If adopted on a wide scale, they could provide part of a means of self assessment in primary medical care similar to that provided in the hospital sector by 'Hospital Activity Analysis'. 'Delay pattern analysis' also raises interesting questions which might be resolved by further research. For example, what range of delay represents an acceptable standard of efficiency for any given condition? As another example, an increase in 'false positives' would be a likely counterpart of more rapid diagnosis of 'true positives'. What level of initially falsely positive results would be acceptable? Finally, should practitioners be held responsible for patients' own delays in consultation. Should excessive patient delay be considered a failure of patient education, or perhaps an indication of too severe rationing of patients' access to medical care?

With small specific pieces of data on these lines, and a sensitive use of work study techniques it may be possible to reassemble the elements of primary medical care into a composite picture of activity which is much more meaningful than any that exists at present. Such a picture might indicate what range of work can reasonably be expected from any given number of practitioners, what should or

should not be referred to hospitals and what should or should not enter the formal structure of the NHS at the outset. It may identify which activities need to be further emphasised in order to rectify shortcomings in priority areas, and which activities may be restricted without harmful consequences.

Conclusions

More sensitive research into the activities and the effectiveness of primary medical care is needed to illuminate this whole area. This is a time when critical decisions are being taken which will affect the future of the health care system in Britain. Yet surprisingly there is little concensus of opinion as to what practitioners within primary medical care ought to be doing. The result is that, in the present state of knowledge, equally good arguments could be put forward to support the view that there is a drastic shortage of practitioners, or that there are more than enough of them.

If the concept of primary medical care is extended to encompass much of the 'pastoral' role, at present implicit in a large proportion of practitioners' work, or even some aspects of the 'social work' role, then there is likely to be considerable pressure on resources. Primary medical care is likely to appear chronically short staffed. On the other hand, the central role of primary medical care may be defined in terms of providing that range of intervention (within the capacity of a family doctor) which has a high probability of being effective in modifying clinically definable disease processes. If this is nearer to the model of primary medical care that ought to be encouraged than the implication of fundamental importance is that it is not more family doctors in total that are needed, but more family doctors of the highest calibre. This would still be the case if a large amount of medical care now undertaken in hospital out-patient, and even in-patient, departments were gradually transferred to family doctors and other community health services.

Manpower planning ought, if the latter model is valid, to be based on the need for quality rather than quantity, on finding those recruits to primary medical care who are strongly motivated to take up its challenges and exploit the opportunities that undoubtedly exist. This more restricted view of what primary medical care is about would be compatible with the model for the training of family doctors put forward by the Royal Commission on Medical Education. Their report suggested three years of general professional training after the intern year, followed by a further two years as assistant principal before being eligible for inclusion in a new vocational register. Such a policy would only be appropriate if the

primary objective were to attract first rate doctors, regardless of the possibility of discouraging others with the prospect of a long period of training before reaching full status.

While this paper would not wish to attempt to identify the most desirable course, it is becoming increasingly evident that the interested parties, the NHS, the health professions and the consumers, must determine what priority should be given to each of the possible roles that primary medical care might perform, rather than leave practices and practitioners to follow their own individual inclinations with virtually no guidelines or yardsticks and no job specification at all. Furthermore, there are still many practices which are not concentrating on extending either the 'medical' content of primary medical care or on the 'pastoral' aspect of their work. On the one hand they continue to refer on to hospitals a great deal of medical work that could be done in the primary medical care setting while on the other hand no effort is made to extend understanding of the psychosocial aspect of patient care through Balint-style 'whole person' medicine. If a large proportion of practitioners continue to practice with few identifiable goals then it may well be that their jobs will be eroded to such an extent that the public will look elsewhere for what have hitherto been accepted as the essential elements of primary medical care.

Appendix I

'The activities of General Practice Staff' was the result of a study sponsored by OHE and carried out by Felicity Carter under the supervision of Dr Brian Peacock as part requirement for the degree of MSc in Operational Research under the auspices of the Department of Engineering Production at Birmingham University.

A random sample of 10 per cent of general practitioners from each county in Britain and also from Northern Ireland and the Channel Islands was selected. The 2,345 doctors in the sample were contacted by post and asked to co-operate in the study by completing a specially designed activity booklet for a period of one week during the summer months of 1973. Fifty-six practices co-operated, together with two practices contacted separately through the Research Unit of the Royal College of General Practitioners. The 58 practices together included 121 doctors, 168 employed staff and 50 attached staff.

'Systematic activity sampling' was applied to the personnel of the 58 practices through the medium of an activity booklet. Each half-hour each staff member recorded the activity he was performing at the time by placing a tick against the appropriate classification in a list of activities. From the data generated in this way a comprehensive picture could be built up of the total amount of time spent working, together with a breakdown into each classified area of activity.

The method was found to be successful for collecting information without excessive interference with working patterns. However, the response rate was low and the study was carried out mainly during August when holidays would often have made working patterns atypical. Given the low response rate it was not possible, as had originally been hoped, to relate the activities of practice staff to practice characteristics like size, number of partners, number and type of ancillary staff and so on. Reliable baseline data, therefore, was not forthcoming from the survey but nevertheless, bearing in mind its limitations, some interesting points came out of it, points which could well be explored in a larger and more detailed survey using the same basic method of systematic activity sampling.

A tentative interpretation of the results of the study could be based on the presumption that the sample of practices which completed returns was strongly biased towards the more highly organised and motivated section of primary medical care. If this were the case, the results might be used to characterise the sort of working patterns that are associated with 'progressive' primary medical care. It seems reasonable to suppose that those who chose to co-operate voluntarily in such a study would be (in the same way as the research panel of the Royal College of General Practitioners) more interested than average in running efficient practices. The interpretation is supported by certain 'progressive' characteristics reported by the sample of practices. Thus single-handed and two-partner practices were under-represented in the sample while those with three or with five or more partners were over-represented compared with national figures. And, 81 per cent of doctors in the practices taking part had full appointment systems while only 6 per cent had no appointment systems at all. By comparison 30–35 per cent of practices, nationally, run no appointment system at all. Another 'progressive' characteristic was the very high number of attached medically related staff among the sample practices. Fifty-seven per cent of doctors in the sample benefited from the services of an attached nurse and 57 per cent again from the services of an attached health visitor. This may be compared with Irvine and Jefferey's findings in 1969 that 32 per cent of their representative sample doctors had an attached or employed 'domiciliary' nurse and 35 per cent a health visitor (see Table 1). Finally, the sample of doctors tended to be younger than average with a mean age of 44.

Bearing the nature of the respondents in mind, it is interesting to compare the breakdown of working time with other data. The results of previous studies (which, equally, were based on highly selected practices, probably run by highly conscientious practitioners) were summarised in Table 3 in the main text. They showed a quite consistent picture of about 45 per cent of time spent on surgery consultations, 40 per cent on home visits including travelling and the remaining 15 per cent on other activities including administration, with an average of about 40 hours a week working time (excluding on-call duty).

Table 5 sets down these approximate figures alongside Carter's figures. The com-

Table 5 *Breakdown of working time: comparison between Carter's sample and previous studies*

	Previous studies (See Table 10)		*Carter's sample*	
	Percentage of time	*Number of hours*	*Percentage of time*	*Number of hours*
Surgery consultations	45	18·0	39	19·1
Home visits including travelling	39	15·6	33	16·2
Administration and other activities	16	6·4	28	13·7
Total	100	40·0	100	49·0

Source Carter 1973

parison shows that although the percentage of time spent by Carter's doctors on surgery consultations and home visits were lower than percentages reported in previous studies, the actual number of hours was very similar. The differences could be explained by the high number of hours spent on 'administration and other activities' by Carter's sample, which in turn could almost wholly have accounted for the higher number of hours worked by Carter's doctors overall. They reported working an average of 49 hours a week (excluding on-call duty) as compared with approximately 40 found in previous studies.

Carter's finding that her sample of doctors spent an average of 14 hours on administration and other activities, double the figure normally recorded elsewhere, suggests that minor activities such as 'telephoning' and 'talking to colleagues', which were specifically included in Carter's study, did not always find their way into the working time figures of previous studies.

If this explanation is correct then previous studies have under-estimated total working time in the general practices measured.

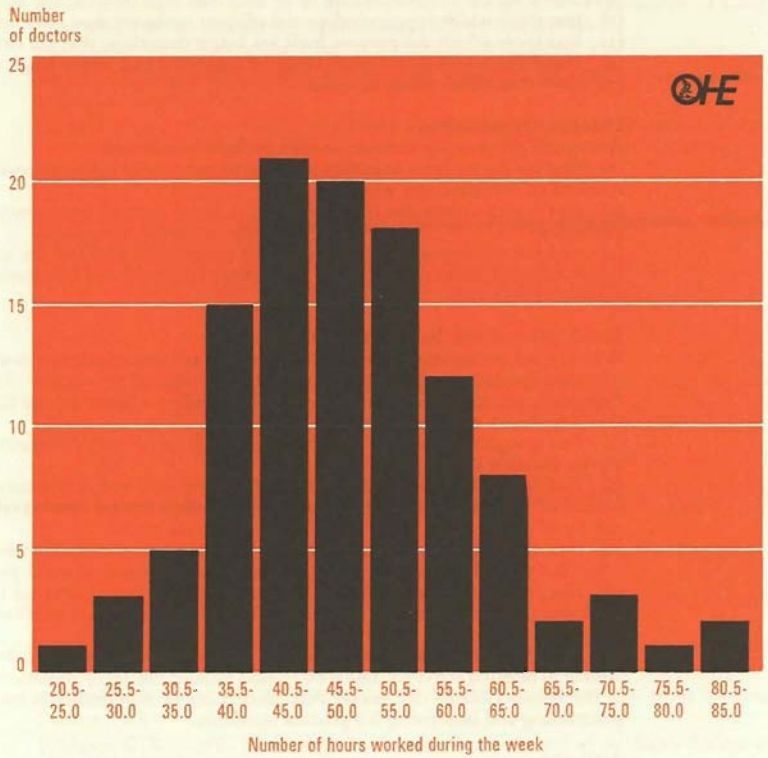
Naturally, extrapolation of Carter's figures to general practice as a whole would be wholly unjustified, but nevertheless, the finding that practitioners who co-operated in the enquiry worked, on average, 49 hours a week during the height of the summer in 1973, excluding on-call duty, strongly suggests the need for more research in order to clarify the state of affairs throughout general practices as a whole.

The need for clarification is also strongly suggested by the large difference between Carter's results and the finding (HMSO 1971) that junior hospital doctors worked, on average, 38½ hours in 1968. Such comparison would also, of course, be wholly unjustified and almost certainly misleading but it does point to the need for a more intensive enquiry into a genuinely representative sample of practices in order to provide reliable baseline data which could then be confidently quoted.

Despite the fact that Carter's sample may have been unrepresentative of general practice as a whole, there are reasonable grounds for believing that it was representative of the more conscientious, hard working and progressive sector of general practice. Their working patterns, involving 49 hours working time a week during summer months, may well be typical of the sort of general practice which is being encouraged to develop. Here again, though, Carter's study must be considered as no more than a pilot study which has raised interesting possibilities which may or may not be confirmed by further research.

Single-handed doctors in Carter's sample were found to report working even longer hours. They said they worked an average of 56 hours a week while those in practices of two or more doctors returned 48 hours on average. The difference was significant at the 2½ per cent level and provides confirmation that group practices with their rota systems and work sharing do help to lighten workload. There was insufficient data to determine, however, whether doctors aided by particular types of ancillary staff spent fewer hours working than those without such staff.

Figure 4 *Distribution of doctors according to the number of hours worked during the study week*



Source Carter 1972

Finally, doctors with lists of less than 2,500 patients reported working an average of 46 hours a week while those with lists of 2,500 or more reported an average of 51 hours. There was insufficient data to show whether there was a consistent stepwise change in working time at each level of list size but the finding does support the view that, as work is organised at present within the type of practice studied, there is a limit to the list size with which most practitioners would be able to cope.

Appendix II

Criteria used to measure quality in general practice Sidel et al (1972).
The variables which they decided could be regarded as indicating a more or less desirable quality of care and about which they had information were of four kinds.

(i) those related to practice premises;
(ii) those related to practice organisation;
(iii) those related to practice procedures;
(iv) those related to general-practitioner attitudes.

Premises

As far as premises are concerned, it may be legitimate to assume;

(1) that those which appear to an investigator to be warm and comfortable are likely to enable a higher standard of care to be delivered than those which are not;

(2) that those which appear modern and efficient are better than those which are not;

(3) that those which are purpose built are better than those that are not.

(4) that those which have a wide range of diagnostic and minor surgical equipment are better than those which have not.

Practice Organisation

As regards practice organisation, it may perhaps be assumed

(1) that the doctor who organises an appointment system is able to practice a higher standard of care than one who does not.

(2) that a rota system for off-duty cover is better than an emergency call service provision.

(3) that the employment of secretarial and receptionist staff and the attachment of health visitors enables the doctor to work more efficiently and effectively than in the absence of such staff.

Work procedures, habits and patient care

Where work procedures, habits and patient care are concerned, one could say;

(1) that the doctor who regularly performs a range of the simpler diagnostic and therapeutic procedures in his own surgery is providing a better service for his patients than the doctor who does not.

(2) that too great a tendency to refer patients to hospital casualty departments reflects a poor standard of care.

(3) that direct use of a hospital's diagnostic procedures and comparatively frequent referral of patients to specialist outpatients' clinics for a second opinion reflects a better quality of care.

(4) that the arrangements of domiciliary consultant visits to patients, especially when the general practitioner is also present, is an indicator of good patient care.

(5) that frequent contact with medical men and other colleagues is an indirect indicator that the doctor is taking measures to keep himself abreast of medical knowledge, and to provide patients with the help of social support services.

(6) that the doctor who has and is able to exercise a special medical interest, involve himself in research activities, find time to read suitable medical publications and belong to the Royal College of General Practitioners is one who indicates his concern for maintaining and improving his practice standards.

Attitudes

Finally, it may be assumed that certain expressed attitudes are related to the quality of care provided; in particular

(1) that doctors who recognise the usefulness of teamwork involving non-medical as well as medical staff are likely to provide better care than those who do not.

(2) that those who feel that patient's behaviour is a frustrating aspect of general practice are less likely to provide them with the care they require than those who do not.

(3) that those who enjoy their work very much are more likely than those who do not to give a good service in the course of it.

In their paper, Sidel *et al* stressed that these are assumptions only about the quality of care and refer to the technical aspects of practice, ignoring altogether the personal dimension. Furthermore, they did not claim to have any means of validating them. However, they said they could claim that they reflect some of the criteria which have begun to be accepted by professional bodies like the Royal College of General Practitioners in assessing the quality of general medical practice.

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