Challenges for change

Essays on the next decade in the National Health Service

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G. McL.

Introduction

Structural change and the real challenges to management

John Revans

Gordon McLachlan

Introduction

Structural change and the real challenges to management

The origin of the collection and the priorities covered

The origin of this collection of essays lay in the uneasiness which followed the publication of the second Green Paper and the growing feeling that however persuasive the stated objectives are, any new structure of health services in the United Kingdom is unlikely by itself to solve the critical problems which attend what is virtually a state monopoly of the provision of arrangements for health services. Eighteen months later, with the accent on management in the Green Paper's successor, the Consultative Document, the danger of undue expectation still remains. Moreover, the tendency to associate structural reforms with quite separate issues such as a renewed resolve to do more by way of care for the groups of patients for whom the standard of care in the National Health Service has not been notably high, namely the mentally handicapped, the mentally ill, and the aged, tends to confuse the picture of what is needed most fundamentally by way of effective changes, and how best to proceed in order to achieve this end.

It seemed therefore appropriate for the Trust, which had for so many years been concerned in promoting the analysis of some of

the problems as well as practical experiments for their solution, to invite a number of people, eminent in their particular fields, and known to be specially concerned about the effectiveness as well as the management efficiency of health services, to set out, analyse, and comment on what they see as the major problems in the ensuing decade including speculations about the real effects of the changes. The development of each paper was discussed at a series of meetings so that each essayist could get to know the other points of view.

No symposium, however ambitious, could hope to be completely comprehensive. It was thought that the most useful line would be to look at some of the critical issues which bear on the quality of medical care, the maintenance and improvement of which must be a major objective of management, from a number of different viewpoints, particularly those of clinicians, researchers, and educationists as well as administrators.

The papers in Part One range over the ground generally and set out the major problems which will persist during the next decade. Part Two consists of essays exploring some of the key issues with which the new comprehensive authorities will have to deal. Together they comprise a series of papers which will give an up-to-date perspective to the task of the working parties which are to prepare the way for the implementation of the structural changes proposed. They also underline the need for keeping the content of the impending legislation, and the regulations which will follow, as flexible as possible. There are clearly many issues and pressing problems for which there are no simple solutions.

We will not attempt in the Introduction to summarize the content of the essays in this collection. There is no substitute for a close study of the essays which explore from the base of personal experience the nature of the network of relationships which are so much a feature of comprehensive health services and which probe a selection of the major questions of concern to those who see the NHS as an outstanding example of evolutionary progress.

It might, however, be appropriate in this Introduction to point to some general considerations.

Some issues affecting management of the National Health Service

THE LOGIC OF MANAGEMENT DEFIED

The NHS is a vast network of relationships, the successful administration of which is frequently the art of compromise. One need go no further than the Consultative Document to illustrate this and the challenges it presents to its own logic. Thus, for all its accent on management and integration, the Document makes certain proposals, the effect of which seems to be that the machinery concerned with general practice will bypass the integrated regional/area machinery to be set up.The Document also accepts as a hypothesis, the administrative severance of medical social work from health services, against all the evidence that the services are inseparable. It is not necessary here to speculate on the reasons for such flights in the face of the first principles of management practice, but they do exemplify the complexity (as they will certainly intensify the problems) of administering medical care services.

Equally, while it is quite easy to see that certain problems of integrated health services are best solved under one management, it must be observed that some major limitations in the present system owe nothing so much to structural faults as to the acceptance of restrictions on managerial behaviour which no service business could afford. Thus, if the present restriction on the spending of capital to save revenue is allowed to continue, or the productive use of NHS assets is circumscribed or in general the financial arrangements will continue to have no inducement to dynamic action, no amount of structural reform will make it easy for the new managements to act as boards of hawk-eyed directors would. It is notable that the formal issues are not referred to in any way in the Consultative Document; but it is to be hoped that any amending legislation will not overlook the opportunities for a searching examination of whether it is possible to have dynamic financial policies in the restructured health service.

EXTERNAL CHECKS NO SUBSTITUTE FOR MANAGEMENT

It was taken as a hypothesis in the whole exercise that the recent emphasis on checking the abuses of care for the 'under-privileged'

patients, first highlighted officially in the Ely Report and subsequently by the setting-up and operation of the Hospital Advisory Service, will continue: and that the deliberations of the Davies Committee and the acceptance by the Secretary of State of the principle of a health services commissioner, will mean that patients' interests will be adequately looked after from now on, at least from outrageous practice. This appears reasonably certain in the case of the groups whose welfare depends more on a high standard of care than upon advances in medical technology, and whose interests have tended hitherto to be submerged, viz. the mentally handicapped, the mentally ill, and geriatric groups.

It does not seem to be widely appreciated, however, that such influences as are being brought to bear or contemplated, are *external* in a management sense and cannot therefore of themselves bring quality. What is needed above all are appropriate *internal* monitoring arrangements, designed as part of the machinery of management which will not only promote the strong vocational motivation of the vast majority of staff but will facilitate opportunities for improving the quality of care and treatment on which effective health services really depend. There is undoubtedly a need for an external check on issues where the bureaucracy is likely to be biased but this must be differentiated from the stuff of management 'intelligence' for operational purposes. Some of the implications are discussed by Professor Dollery from the point of view of a clinician in the first essay.

ADVISORY MACHINERY IN MANAGEMENT

It cannot be overlooked that the key figure in medical care is the doctor, who has unique responsibilities in relation to his patients. Yet, despite the implication of services arranged in a pyramidical structure of national, regional, and area authorities, by tradition and training, individual clinicians have no direct concern for patients other than their own, or for the total health care of the community. The essential clinical freedom which as a cardinal principle the doctor enjoys in treating his own patients, has tended to vest him with the right to demand and consume expensive resources, particularly those concentrated in hospitals. There is thus a perpetual state of conflict, or competition for resources, between individual clinicians or specialties and the providers of resources,

i.e. the Departments of Health and the statutory bodies. A further complicating factor is that other professional groups, for example, pharmacists, engineers, nurses, are also in competition, sometimes with each other, for the same resources, all for the best of reasons.

The NHS employs many separate professions, each rightly concerned with enhancing its own professional standards and status, but all needing to work together in providing total health care. For effectiveness of the whole effort this implies some form of multidisciplinary management. There is as yet, however, no generally accepted theory for achieving this throughout the NHS and it would be to ignore the reality not to accept that the influence brought to bear by some disciplines is greater than by others, and sometimes resented.

Although with goodwill and co-operation a common line of action usually emerges, there are many instances where it does not and many management decisions have to take into account considerations which are not easily measured.

At the same time in a public service the population has a role that is too often forgotten. Sober authoritative judgements are increasingly needed which will eventually help to mould public opinion and make for better social action. But these have to be based on as good evidence as is available to management. It is perhaps open to doubt whether the community health councils now proposed can operate effectively without recourse to advice and information about up-to-date medical care practice as well as community need. The same authoritative judgement is essential in a different way for 'effective management' and unless the 'strong advisory machinery' mentioned in the Consultative Document is carefully worked out with an understanding of all that will have to be involved by way of strong substructure, and what is currently lacking in the existing mechanism, no management can prosper in the way hoped for. The disappointing development in 'Cogwheel' machinery is an indication of how the advisory machinery, as well as the managerial group, must have effective information systems which are geared to the requirements of both clinical work and management. A dynamic management policy presumes a continuous flow of information for monitoring the use of services. It is clear from all the evidence that we do not yet have adequate information systems: nor for that matter have we learnt to utilize fully what we have.

There are perhaps signs that the fundamentals of many of the

current problems of concern, not only to the medical profession, but to all interested in medical care services, are increasingly being brought to public attention, fortunately with a greater accuracy than has been the case in the past. At the same time there are few indices of performance and it would be foolhardy to believe that decisions of managers can be taken without recourse to rather more intensive social, political, and moral considerations than the normal business manager has to deal with. These difficulties are accentuated by the lack of mechanisms in the management structure for dealing rationally with selective priorities concerning prevention, therapy, and care (e.g. such questions as screening, the implication of population eugenics, etc.) as well as the priority to be given to 'acute' as against 'maintenance' medicine. For all the necessary attention being given currently to upgrading 'maintenance' medical care, no management can overlook the fact that the priority given in the past to the development of centres of excellence which promote general advances in quality through example and stimulation, has been based on the promise of striking advances in curative, acute medicine and its applied technologies. The goal of securing advances introduces a morale factor impossible to evaluate, but likely to be high, which management will discount at peril.

Obtaining and using the basic clinical, scientific, and sociological information on which policies concerning such issues should be decided, are essentially managerial matters. If these considerations are not kept in mind in deciding the form and strength of the functional substructure of the management referred to in the Consultative Document, the effect of the structural changes now in train is likely to be nullified in a scrimmage of confused objectives and the right decisions will not be needed.

MANAGEMENT AND THE MAINTENANCE OF MORALE

In periods of great administrative change, there is likely to be considerable upheaval in the lives of a large number of people. Consequently, it is quite clear that the NHS during the transitional phase is unlikely to escape the inevitable loss of morale due to uncertainty about the future, particularly so, unless accompanying the announcement of reform, there is a deliberate educational policy in the widest sense about the real nature of the changes, and a pro-

gramme of objectives. The period 1946–8, which saw the foundation of the NHS, was one of great social change after the Second World War. Many of the professional and technical associations had scarcely formed and pressure groups were not as powerfully mobilized as they are now. The foundation and formation of the NHS during the period of social optimism can be seen now as having been of such promise that there was not so much a threat to existing morale, as the near-immaculate conception of a new morale. Conditions in the 1970s bear little resemblance to those of the late 1940s, particularly in the way in which the respective governments then and now seem to view social welfare. During the period in which decisions are taken in which legislation is framed and passed and subsequently the results applied, there must inevitably be now a considerable fear on the part of many that under new arrangements they are bound to suffer. Frequently such people will be in key positions to influence the course of events.

It would not be to exaggerate that the issue of morale, during the inevitable period of delay before implementation of changes, is one of the utmost sensitivity, which any authority introducing radical change would be well to consider specially.

The question is, of course, not confined to those who administer services. The morale of those clinicians who will be staffing the regional district hospitals, needs to be considered urgently. The great developments in the 1960s were the 'Charter' for general practice and the expansion of the arrangements for continuing and post-graduate medical education. These both had a great effect in the raising of morale in groups essential to the development of general standards of care, particularly those doctors practising outside teaching hospitals, which are expected to set the standards as centres of excellence. Yet, how near are we to the tantalizing concept of every hospital being in some sense part of a teaching complex with all that this still implies? Is the notion of a 'teaching district' (whatever that means) part of an idea likely to lead to a rational scheme for postgraduate and continuing education and so to the raising of standards? A task for the 1970s must surely be to maintain the impetus of the 1960s to strengthen the foundation of the regional health services as a whole and give a special gearing to the system to ensure that the excellence of service to which we all aspire involves a fair distribution of the best in skills to the population as a whole. The presumption in this is a firm foundation

of morale in the regions and a scheme in which the lines are laid towards a properly integrated service in which the regional and teaching hospitals are somehow welded together with the primary medical care services.

THE CARDINAL DIFFICULTY OF RISING COSTS

Despite the focus of an NHS, we in the United Kingdom have failed hitherto to probe how we should choose what society as a whole needs, and can even afford, by way of medical care. Like other countries in the Western world at the moment, we are no less subject to the frequent recurrence of crises concerning the provision and organization of medical care, with no clear picture of what can be done to resolve them. At the same time, if solutions are hard to find in most countries, it is not hard to distinguish the common elements of the confusion which besets all societies.

In the wake of the accelerating demands of medicine, and particularly now of medical technology, which has often a complicated scientific basis and is thus very expensive, there are ever louder and more urgent calls for more and more services, indeed frequently far beyond current resources. Some of these demands have, no doubt, political origins, some social; most, however, express a heartfelt need. There are, however, virtually no adequate means in most management structures for determining satisfactorily and in a reasonably unbiased way, the priorities of the application of scientific advances and the development and utilization of services. Imbedded in this problem, of course, is the paradox that while there is universal belief that medicine is highly scientific, the reality is more complex. Thus, a major part of the confusion is that while it is medical technology that is scientific, in effect the application of such technology in numerous forms is frequently only a minor part of the total therapy and care necessary for any civilized society.

The escalation in the cost of medical care services highlights a whole host of social and political problems as well as the pressing economic need to keep under review the allocation and management of the total resources deployed—all this against a background of decision-making by sapiential authority which is often unsupported by scientific evidence and frequently motivated by medical ethics.

The way ahead

Indeed, all these considerations taken in conjunction with the essays, pose the need for an administrative theory of the effective management of health services in which the processing and relevance of information are explored in depth, together with the function of statutory and professional bodies, including the advisory machinery as part of the substructure. They also suggest that structural changes will mean little unless they are complemented by reforms embracing finance and manpower. The first objective should be a deliberate programme of action to 1974 and beyond related to a philosophy of health services which will provide the necessary purpose and perspective to public and staff, and above all, to the various working parties envisaged in the Consultative Document.

The fundamental elements of such a programme are as follows:

1. First is the need to develop a philosophy of health services, where the rights, the duties, and the expectations of every individual should be clearly set out, without political or professional bombast. This poses almost immediately the need for an educational policy for the better education of people at large; how to use health services, how best to try and avoid the need for their use; what can be expected from health services. The possibility of such a policy needs great attention at this time when there is a temptation to regard structural change as an achievement in itself, which while doubtless causing some dislocation, will start producing benefits immediately without too much bother to many. The truth, alas, lies elsewhere.

Too frequently we seem blinded by the general belief that science is on the brink of conquering disease—a partial truth which has little validity for the major problems now facing health services, especially for the mentally ill, the mentally handicapped, and the chronically sick. The terrifyingly long episodes of illness experienced by these groups require care of the highest form from the professions directly concerned, as well as understanding on the part of the mass of the population whose supportive role is not always properly seen by themselves or those providing services. It is not enough to provide *external* prodding, checking influences. Internal arrangements as part of the management mechanism and

designed to improve quality are imperative. The issues are complex and not always clear.

What is patently obvious and makes for more distortions which need to be corrected, is that the population as well as those institutions and individuals concerned with operating services have only the haziest of impressions of their duties and responsibilities.

2. Against such a philosophical setting there must be developed a a series of objectives for the NHS, including a theory of administration to attain them. This will involve the definition of the responsibilities of the various institutions making up the NHS. The principle of the need for definition of responsibilities has been accepted by the Secretary of State in the Consultative Document. What must be underlined is the absolute necessity for this exercise to be carried out in depth and with an understanding of what is expected from *all* the institutions now involved. If a major mistake in the original foundation of the NHS is to be avoided, a clear definition of responsibilities at every conceivable level of consultation as well as management must accompany the implementation of the new plans. It is one thing to see how far the Department's responsibilities extend and how much responsibility can be delegated to regions and areas to complement the more diffuse responsibilities which must remain at the centre of affairs: but it is equally important to ensure that the functions and responsibilities of all the statutory, advisory, and professional bodies are widely understood and accepted. Many bodies not recognized as part of the NHS now profoundly influence its operation. Accordingly, the functions of these bodies should be clearly charted in the framework of an integrated, controlled, monitored, and protected (in the sense of protection from tactical political interests) health service. The special responsibilities and operations affecting the NHS of bodies such as the General Medical Council, the Royal Colleges, the Council for Postgraduate Medical Education, the Whitley Council, as well as the professional bodies, particularly the British Medical Association, need to be more widely understood.

3. It would be dangerous to assume that in April 1974 some prearranged signal will start a new era in health services which will show immediate benefits. Many of the points made in the following essays are real challenges to management. They show that the

new arrangements will have to be flexible to ensure the developments necessary in the future. Quality of health care is an abstract term but the elements of its monitoring and development are fundamental to any theory of management which is applied to such a complex of services as constitutes the NHS. It must be recognized that it is only a small part of monitoring to report on laxity of standards or abuse of power; and the way in which the Hospital Advisory Service or a health services commissioner can operate to affect quality of care directly is limited. The ongoing system which affects millions of people each day must provide for the development and improvement in the quality of care as well as its maintenance. The internal mechanism must be made positive to this end. There is a substantial case for recognizing this and for speedily mounting some practical experiments during the interregnum which among other things should be designed to build a new morale.

4. Any service is completely dependent on the quality of its personnel. A manpower policy must be developed to deal with morale at all levels.

But it is not wholly a question of morale. It is surely time to investigate closely the ready assumptions of shortages in the area of manpower and the repeated urgings for the expansion in numbers of many of them. Fundamental to this is a thorough investigation of the standards of education and training which are being set in the various professional groups engaged in the NHS providing services to patients. Indeed, such an investigation is a prerequisite of training and education as part of the total structure. Indeed, if there had been, as there should have been by now, a personnel policy for the NHS, the requirement for such a study would already have been evident.

Above all it is not to exaggerate that the question of morale in all the professions involved may be one of the major problems of the next decade. Without an adequate personnel policy the danger from low morale could be a threat to over-all effectiveness. On the basis of the penetrating essay by Gunn and Mair which winds up this collection, it is doubtful whether the requirements of such a personnel policy as is needed, are fully appreciated at DHSS level and whether appropriate steps are being taken to develop the personnel organization needed at each level of the NHS.

Part One

CHALLENGES FOR THE FUTURE

1

The quality of health care

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The quality of health care and its attainment

Summary

The effect of medical and social changes during the last half-century has been that the quality of medical care can now very often make the difference between life and death and between health and disability. Yet little attention has yet been paid to it in discussions about the National Health Service. One element in the quality of care available is the rate of *organizational* development and this has not kept pace with changes in medical care practice; it demands prior experiment for which despite some recent developments there are as yet no satisfactory arrangements. Not only therefore must there be assessment of the quality of the health care delivered, but there must also be arrangements for organizational research and implementation of its results.

In assessing the quality of medical care the prerequisites are to devise methods of measuring it and to obtain acceptance of these methods by the health profession. In practice the patient has insufficient protection against inadequate service and the doctor no source of advice about current development because there is a great reluctance by both doctors and administrators to intervene in anything short of gross incompetence or negligence. The medical profession would probably be willing to

accept advice if there was an impartial and professional source.

There are precedents for confidential and impartial inquiries into the quality of care in the Enquiries into Maternal Mortality and the Hospital Advisory Service, though both in practice have been confined to particular fields, obstetrics and long-stay psychiatric cases respectively. This kind of external but professional evaluation of performance should be extended by stages to other fields, concentrating initially on well-defined problems such as the handling of emergencies. Immediate benefits would include a more rapid dissemination of improved techniques, a continuing attack on difficult problems, better intelligence affecting the allocation of resources, and greater medical interest in management of the health services.

Such inquiries could be based at first on a health care committee staffed by doctors, nurses, and administrators seconded from the NHS or the universities, which would establish a number of groups to carry out such studies. If these were successful, statutory authority and an independent identity might be given later to a permanent body on the model of the Medicines Commission or Public Health Laboratory Service. These inquiries which would extend to the whole Service including general practice would provide the opportunity for gaining experience of their own methods and organization. Thus, for instance, in addition to the work of the general groups, professional groups might be invited to study particular events such as anaesthetic deaths or diabetic coma. Immediate experiments with proposals are practicable without legislation.

A review of the development of research into health care leads to the conclusion that in order to control research policy in the health care field there is a need to establish a new body, independent of political change and objectively able to assess progress. The argument that such a function should lie within the government department concerned in order to ensure that notice is taken of research results is outweighed by the fear that research could be used to buttress official policy. It is questionable too whether a government department is equipped to assess questions such as whether the money available is matched by the number of

individuals qualified to use it. Although the Department must maintain a large intelligence activity for its own purposes, the balance of advantage is in favour of responsibility falling to a new health care research board possibly within the MRC. Such a board would probably have the advantage also in establishing experiments in the service field, which have sometimes proved embarrassingly difficult for the Department.

Both the health care committee and the health care research board would publish results and issue annual reports but some further action is necessary to ensure an interaction between research and policy. The practitioner of health care must be involved in the acceptance of research results: this points to a sharpening of the responsibilities of the Central Health Services Council with the clearly defined task through a development committee of reviewing the work of both the health care committee and the health care research board and recommending consequent changes in the organization of the Service.

Developments in medical science and changes in the structure of the community during the past fifty years have greatly altered the practice of medicine. Clean food and water, combined with the development of effective antibacterial drugs and immunization have almost conquered infectious diseases in young and middle-aged members of the population. Medical technology has advanced and the diagnosis and treatment of disease now depend upon a complex range of laboratory services. Brotherston (1) rightly said that a modern hospital consists of a fringe of beds surrounding a vast core of central services.

The community, too, has changed. The population explosion of Victorian times has been replaced by a closer balance between births and deaths. In consequence a much greater proportion of medical effort must now be devoted to the problems of disease in the elderly. Many of the illnesses suffered by the elderly are long-drawn-out and make heavy demands upon both health and social services. Public expectations from medicine have more than kept pace with the advances in treatment. People expect to live well into retirement and to do so without major inconvenience from ill-health.

The quality of medical care made little difference when there were only a handful of diseases that responded favourably to the treatments which were available. Nowadays the quality of medical care available may make the difference between life and death or between health and disability in conditions as diverse as major accidents or high blood pressure. Much more than the competence of the individual doctor contributes to the outcome of his care. This is most obvious in the treatment of emergencies, especially war casualties. The proportion of fatalities to severely wounded was much lower in the US army in Korea and Vietnam than in earlier wars and much of this was due to good organization which ensured rapid evacuation of wounded men to well-equipped base hospitals.

Modern medical care is both complex and costly. The justification of ever-growing expenditure on health services must depend to a great extent upon evidence of quality and effectiveness. Very little attention has been paid to quality during discussions of expenditure or organization in the NHS. In terms of national mortality experience the health of people in the UK is good but in several respects certainly not the best in the world. Could it be improved and where ought it to be improved?

Despite great changes in medical practice the organization of medical care has changed relatively little. There has been a great deal of discussion and a certain amount of action concerning the early detection of a range of diseases such as cervical cancer, hypertension, and diabetes. Traditional boundaries between general practice, public health, and hospital practice no longer appear sensible in this context. Patient management in hospital is no longer a one-stop event in which the patient is an object rather than an individual. His proper management may involve lifelong co-operation between clinicians in both hospital and general practice each supported by a wide range of services. In 1970 it is probably more relevant for the doctor in the public health service to be concerned about undiscovered hypertension in his community than in the traditional role in the control of communicable disease. To do so effectively he must be more closely integrated with those providing health care.

Meeting these problems will require changes in organization. Changes have been proposed but the recent government papers on this subject had little to say about the delivery of health care to the individual. If there is to be change in the delivery of medical care

there must be data concerning the strengths and weaknesses of the present system and there must be experiments to see if changes that are proposed offer advantages that exceed the dislocation that they will involve. Satisfactory mechanisms for making experimental observations on the delivery of health care are at a very early stage of development. Neglect of operational research in the health service has in the past been a grave weakness. Recently, much more money and effort has been devoted to it but there is room for doubt whether the present arrangements are satisfactory.

The present paper is devoted to these twin problems; the assessment of the quality of health care delivered and arrangements for operational research which is designed to improve it. Intelligence and research without arrangements for implementation of their findings are of little value and the final part of the paper is devoted to a discussion of how it may be possible to provide a mechanism whereby the needs of a developing health service are kept before both public and professional attention.

During the preparation of this report, I have been able to have lengthy interviews with a number of people who are closely involved with different aspects of the services which I have covered. I am grateful to them for sparing their time and willingly answering questions. However, I must make it clear that the views I put forward here are my own.

Assessing the quality of health care

There are two major difficulties in assessing the quality of medical care. The first is acceptance by the health professions that it is proper that their work should be scrutinized and the second is to devise methods for measuring quality.

Ultimate responsibility for patients in the NHS rest with either the GP or the hospital consultant. To whom are these doctors responsible? Most doctors would answer that they are answerable to the patient but as most patients lack the knowledge to make a competent judgement it is difficult to see how this responsibility can be effectively exercised.

The professions take pride in maintaining their own standards but in practice only intervene in cases where a coroner's inquest or a malpractice suit disclose gross professional incompetence or if

the criminal law is broken. The impotence of the General Medical Council, even in the face of flagrant abuse, was seen with its inability to constrain doctors who were over-prescribing heroin and other addictive drugs to their patients. Administrators of hospitals might be held to be responsible for the standards of service provided in their institution, but in practice rarely intervene on the medical side and are resented if they do. Many doctors would maintain that it is not the business of the outsider to inquire whether the standard of service provided is adequate. Is the patient to have no protection from inadequacies that fall short of criminal negligence? Are doctors and institutions to have no source of advice that would bring to their attention arrangements and methods that might help them to serve their patients better? NHS staff generally are highly motivated to deliver the best possible care to their patients but may find themselves in circumstances that make this difficult. Help and advice from an impartial external professional source would assist them. Fortunately, there are some indications that the profession would be willing to accept such advice and even welcome it.

Measuring the quality of medical care presents many difficulties. The effectiveness of many commonly used surgical and medical procedures is in doubt. When studies have been made and the results run counter to accepted practice there may be great reluctance to implement them. Thus tonsillectomy is still widely practiced and causes a small but avoidable mortality in children. In the great majority of cases this operation appears to have no demonstrable benefit to set against its risk. In many instances improvement in the quality of care will have to await evidence as to whether or not the best accepted practice is a standard to strive for. However the gloomy conclusion that there is no point in trying to improve the standard of care until present methods have been entirely re-evaluated is too pessimistic. It fails to recognize the needs for improving services such as those for accidents and emergencies whose efficiency makes a great deal of difference to the outcome.

Morrell (2) suggests five headings for assessing medical care.

1. Outcome studies which are most useful when applied to discrete and relatively uniform events such as perinatal or operative mortality.

2. Process studies which accumulate data on the techniques of medical care provision. If such studies are to be applied to measure quality it is necessary to derive criteria, checklists, or flowcharts against which individual behaviour can be judged.

3. Study of facilities. Although good facilities cannot be taken to prove good care, absence of certain facilities, for example, resuscitation equipment in a casualty department, would provide strong evidence that the quality of emergency care was not high.

4. Study of accessibility. Such studies which relate the medical needs of a community to the facilities which are available are of particular value in planning the allocation of resources for development.

5. Acceptability. Excellent services will not serve their purpose if they are so organized that patients or staff do not make use of them.

This paper is mainly concerned with the first three of these headings which directly affect the present practice of clinical medicine. Study of medical needs as opposed to demand or present provision are also of great importance for the future. At present this is mainly a subject for research and experiment but ultimately data from such studies must be used to reshape the provision of health care everywhere.

THE PRESENT POSITION

The longest-standing and most detailed inquiry into medical care is the confidential inquiry into maternal mortality. It was initiated by the Chief Medical Officer at the DHSS following a suggestion made by the then President of the Royal College of Obstetricians and Gynaecologists. The inquiry is organized by the DHSS with the assistance of regional consultant assessors. The files can only be handled by designated individuals in the Department of Health and Crown Privilege would be claimed for them in the case of legal dispute. This inquiry is unique in that it is intimately concerned with the care of individual patients and seeks to establish whether there were preventable factors that contributed to the mother's death. The findings in individual cases are not disclosed but the results for the whole country are published and show that many such deaths do have treatable or preventable factors. The results are taken extremely seriously by obstetricians and there is no doubt that they provide a powerful spur to both individual and

collective action to improve the care of women who are pregnant. The essential ingredients are the agreement of the obstetrician and the confidentiality and impartiality of a professional assessment of the individual case. The aim is not to show up the individual failure or imperfection, but collectively to learn and to improve.

Attempts to initiate a similar regular inquiry into anaesthetic deaths and transfusion deaths have not so far proved successful.

The second example is the Hospitals Advisory Service which was set up during the period when Mr Richard Crossman was Secretary of State to deal with the problems which had been brought to public notice in long-stay psychiatric and mental subnormality hospitals. The functions of the Hospitals Advisory Service are:

(i) by constructive criticism and by propagating good practices and new ideas, to help improve the management of patient care in individual hospitals (excluding matters of individual clinical judgement), and in the hospital service as a whole; and

(ii) to advise the Secretary of State for Social Services about conditions in hospitals in England and the Secretary of State for Wales about conditions in hospitals in Wales (3).

In the initial plan of operation it is made clear that the Hospitals Advisory Service will operate to a large extent independently of the DHSS and the Welsh Office and will co-ordinate its work with the regional hospital boards which will continue to be responsible for promoting the improvement of hospital standards in their own region.

At the time of its inception the Advisory Service was described informally as 'the eyes and ears of the Minister'.

Although the terms of reference of the Advisory Service are wide, it has commenced work by assessing long-stay hospitals for psychiatric and mentally subnormal patients and geriatric hospitals. The Hospitals Advisory Service operates by sending teams to visit hospitals and there are at present four teams in operation. A visiting team normally consists of five people, a consultant, principal nursing officer, ward nurse, social worker, and professional administrator. The members of the team are recruited by advertisement and hold the post full-time on secondment from their established post for a period of six months to two years. At present there are two teams visiting hospitals for the mentally subnormal in

England and Wales and it is planned that they should complete their programme of initial visits in a twelve-month period.

The mental hospital team visits one large mental hospital per region and usually spends two weeks there. The first week is involved in survey work and the second in making suggestions for solving problems that they have found.

There is one team working on a general survey of geriatric care which is working on a piecemeal basis trying to draw up guidelines for a more extensive survey. A GP is added to the basic team for this project.

The team write a fairly detailed report on their visit and this report goes to the hospital concerned and the Secretary of State. The Department makes a follow-up inquiry six months later to ascertain how far the recommendations of the team have been implemented and the Advisory Service proposes to revisit the institutions that come under its remit every one to two years. The reports do not name individuals and do not comment on the care of individual patients except in general terms.

The Director of the Advisory Service, Dr Baker, is himself on secondment from a consultant post in psychiatry in the NHS and thus not technically a member of the staff of the Department.

Formation of a committee to supervise the Advisory Service was discussed at its inception but this has not been implemented. The Advisory Service is answerable only to the Secretary of State of the day.

The need for an advisory service covering the whole National Health Service

Provision of medical care is a complex process. It involves many different types of skill: medical, nursing, scientific, sociological, and administrative. The most basic medical encounter is between doctor and patient in general practice and on the face of it this may involve only the skill of one man. In reality the situation is much more complex. Has the doctor time to give proper care and an appointments system that gives him that time? Has he proper communication with other parts of the NHS, good laboratory support, and regular postgraduate training? These and a multitude of other factors determine in large measure the quality of health

care provided. This is not to undervalue the individual skill of the doctor or nurse. Now that many illnesses can be successfully treated that skill is more vital than ever, but if the environment is not right the individual may have difficulty in deploying his skill and the patient may suffer.

All of these factors argue for the importance of a continuing external but professional evaluation of the performance of health services. I am of the opinion that this should be provided by establishing, initially on a pilot and voluntary scale, an Audit of Health Care (AHC) that would review the work of the NHS. It would be mainly concerned with studying staffing, organization, and facilities but I believe that it could do much useful work without the necessity of attempting a detailed definition of what constitutes good quality care. Ultimately the remit of the AHC should cover all aspects of health services but in the first few years it would be wise to restrict it to well-defined and substantial problems that are widely admitted to be unsatisfactory at present. In the first instance I suggest two problems for consideration by the AHC.

1. *The handling of emergencies both at home and in hospital.*
2. *Communications between staff in different parts of the NHS.*

A number of important consequences would flow from the existence of the Audit of Health Care.

1. There would be a wider and more rapid diffusion of useful ideas about improving the service and some movement towards raising the standard of the indifferent towards the best.

2. There would be a continuity of interest expressed through the AHC for solving problems rather than the once-for-all effort that tends to follow special attention being directed to a particular difficulty.

3. There would be much better intelligence concerning the problems of different parts of the NHS which would be bound to have an effect on the medium- and long-term allocation of resources.

4. The health professions, which would staff the AHC, would be encouraged to take a much greater interest in the managerial aspects of their job which should have a favourable impact on aspects of the service remote from any that are the subject of immediate inquiry.

5. There would be an impartial source of advice available to give support for inevitably controversial decisions to amalgamate smaller units and services into ones which are large enough to offer a proper 24-hour cover for the sick. At present these decisions often appear as remote, anonymous, and bureaucratic.

STRUCTURE AND FUNCTION OF THE AUDIT OF HEALTH CARE

The AHC will be concerned with some delicate matters that affect professional pride and independence. It is therefore essential that it should be, and be seen to be, an independent body in which the professions give advice to their own members. In this respect the position of the present Hospitals Advisory Service seems less than ideal. The original phrase 'the eyes and ears of the Minister' implied a trouble-shooting role for the Secretary of State which is not the best basis on which to build professional confidence. In fact, the Hospitals Advisory Service has acted independently and its independence is to a large extent guaranteed by the fact that its members are seconded from other posts and could resign if they felt their position was being undermined. However, it is probably best to see the present arrangements as a result of a particular problem, that of public scandal concerning the treatment of patients in long-stay hospitals, and not as a detailed model upon which a more general advisory service should be built.

I envisage two stages in the creation of the AHC. The first would be a small para-departmental organization working on a purely voluntary basis as did the Committee on Safety of Drugs in the years before the Medicines Commission was set up. It might be termed the Committee on Health Care.

COMMITTEE ON HEALTH CARE

The Committee on Health Care would have a membership consisting of doctors, nurses, and administrators and a small secretariat including full-time medical, nursing, and administrative personnel from the DHSS. The members of the Committee itself would be chosen for their active interest and knowledge in particular fields of work relevant to the general field of the quality of

health care. They would be recruited from the NHS or academic life and would serve on a sessional basis for a period not exceeding five to seven years. The Committee would set up audit groups which would usually consist of three to seven members depending upon the ramifications of the subject under consideration. The chairman of such a group would be a member of the Committee on Health Care. Members of audit groups would be on full-time secondment from their existing posts and work on the group would count towards seniority in that post in the normal manner. It would be of particular importance to include junior personnel in the groups. For example, a group advising on emergency services ought to include a casualty officer and a sister.

The second stage would depend upon the success of the first. If the AHC proved to be useful and generally acceptable it would gradually expand the field of its activities so that eventually it might be expected to call upon every part of the NHS every two or three years. At this stage the AHC should be given statutory authority and a separate identity. A model for this arrangement might be the Medicines Commission or the Public Health Laboratory Service, or possibly part of the apparatus of a rejuvenated Central Health Services Council.

FUNCTIONS OF AN AUDIT GROUP

The Committee on Health Care would select the topic for study and be responsible for selecting the chairman and members of the advisory group. It would be for the group itself to decide the details of its method of working and the hospitals, GPs, and other institutions to be visited. The group would then make a formal request to visit the individuals or institutions concerned. It would be open for them to decline to receive the advisory group but it can be assumed that such refusals would be rare.

The visit would probably open with joint discussion between the visiting group and the heads of the clinical divisions, the hospital secretary and the heads of the departments particularly under discussion. The group would then break up into ones and twos to visit relevant departments. These visits would provide an opportunity for members of the group to see the space and equipment available, but more important it would provide a chance for them to hold informal discussions with both junior and senior

staff. There should also be more formal opportunities for them to meet members of the staff.

It is probable that experience would show that certain kinds of statistical information would be needed to provide a background for these discussions and facilitate comparisons. For example, a hospital might be asked to record details of emergency admission for a three-month period before a group concerned with emergency admissions visited them. These could be divided into a number of simple categories. For example, the number of emergency operations, blood transfusions, and out-of-hours laboratory investigations and radiological investigations; how many staff were on call at different times of day and how well supported by consultants for night emergencies. An inquiry on communications might require that certain details of the delays in answering incoming telephone calls directed to emergency staff and delays in letters going to GPs should be recorded. At the conclusion of the visit the group would again meet with the department heads and give them a chance to comment on their preliminary conclusions.

THE AUDIT GROUP IN GENERAL PRACTICE

The functions of an audit group in general practice would be somewhat different than in hospital but it is essential that general practice should be considered within the remit of the Advisory Service. The group involved in such visits would be smaller and would probably consist of no more than three people unless a very large group practice was being visited. To cover the whole of general practice would take a very long time and it would probably be necessary to carry out a sample survey. Groups visiting GPs would have to adopt a wider brief than the more specific inquiries that would be carried out in hospitals. The following are some suggestions for topics that might be usefully followed up by an audit group in general practice.

1. A sample survey of case-notes. Frequency of consultations, use of laboratory services, recording of treatment and diagnoses.
2. Access to diagnostic facilities and liaison with local hospitals.
3. Communications, use of receptionists and secretarial assistance.
4. Health visitor attachments and co-operation with the local health authority.

5. Appointment systems and arrangements for special clinics for babies and immunization.

6. Arrangements for dealing with night emergencies and the adequacy of cover.

7. Attendance at postgraduate training courses.

8. Arrangements for repeat prescriptions and certification.

AUDIT GROUP REPORTS

An audit group would normally submit a joint report to the GP group or hospital which they had visited. This report would probably begin with a short description of the type of practice or institution, its history and facilities. It would then give an account of its inquiries and the over-all impression. The report would conclude with recommendations. If the group viewed any part of the service they had surveyed with special anxiety it might be necessary to go into further detail and submit a supplementary report to those immediately concerned with the problem and putting it right. Such reports would be exceptional because the whole tenor of the operation of the NHS would not be to emphasize minor failings but to give a balanced over-all impression of the function of the service and the quality of care supplied.

It would be desirable for the chairman of the group to return for further discussions with those concerned when the draft report was prepared before writing the final version. It would be essential to ensure a free interchange of information and this detailed report should not be published. A briefer document should be made available for publication and this should summarize the main recommendations made in the more detailed report.

In hospitals the report of the group would be sent to the management committee, medical executive committee, and regional board. In general practice the report would go to the members of the practice or health centre concerned and to the local executive council. When the health service has been unified reports on any branch will go to the area and regional health authorities.

It will be important to ensure that reports deal with substantial matters and it is understood that complaints to an audit group are not to be regarded as being a convenient way of securing money for improvements at the expense of other pressing necessities. The

appropriate body, be it a hospital management committee, executive committee, or area health authority will have to report to the Committee on Health Care and to the Department what action they have taken on group reports but it will be open to them to argue against implementing recommendations at the expense of other matters, if they can provide powerful and specific reasons.

The Committee on Health Care would receive the report and collate it with others. In this way they would build up a general picture of those parts of the service which are generally of a high standard and might identify others where there was a need for development of services or deployment of additional resources. These topics would be the subject of specific recommendations to the Health Department and would be referred to in the Annual Report of the Committee laid before Parliament.

PROFESSIONAL STUDY GROUPS

A most useful approach to the problem of assessing the quality of care would be to invite professional groups constituted by specialist associations with departmental assistance to undertake reviews modelled on the Confidential Enquiry into Maternal Mortality in a number of other fields. These would be inquiries into the outcome of defined problems which could deal with all examples of infrequent events such as anaesthetic deaths or samples of more common conditions such as the outcome in patients who had partial gastrectomy or diabetic coma or malignant hypertension.

ACTION

It would be possible to create such an audit on a trial basis by administrative action without the need for either legislation or a very large budget. It might even be possible to do this without departmental assistance on a trial basis with private funds but it would clearly be much more satisfactory to do it with the help of the Department. If the AHC cannot be started at once a go-ahead region could probably implement such a service locally to the advantage of health services in its region.

As the aim of the Audit of Health Care and professional study groups is to assess and improve the quality of health care it is important that an attempt should be made to evaluate the effective-

ness of action taken upon the advice of these bodies. Such evaluation will help to establish the areas in which this type of approach can profitably be extended and developed.

Research into health care

Central provision for medical research in the United Kingdom dates back to the National Health Insurance Act of 1911. The Treasury made available one penny for each person insured under the Act and this gave rise to a sum of £40,000 in the first year. The administration of the spending of this sum was entrusted to a large representative Advisory Council and a small Medical Research Committee consisting of six scientific and three lay members. Himsworth (4) comments that fortunately the Advisory Council proved to be a dead letter from the start and the Medical Research Committee eventually grew into the Medical Research Council which today has a budget of £19 million per annum.

The Medical Research Committee decided to adopt a policy of supporting a wide range and depth of research activities and did not confine itself to specific and urgent health problems of that time. This policy was supported by the influential Committee (5) on the Machinery of Government which was chaired by Haldane. This Committee firmly distinguished research supervised by administrative departments from research for general use of which that carried out by the Medical Research Council was an example. The Haldane Committee foresaw the danger that research carried out by the administrative departments might be constrained by the need to produce rapid and possibly superficial answers to solve immediate problems. They proposed that research which was concerned with the study of natural phenomena should be independent of the government department which their findings might concern. They further recommended that work concerned with the operation of a particular department should be under the administrative control of that department.

Next year, in 1919, the Ministry of Health Bill was placed before Parliament and there was pressure that the Medical Research Committee should be placed under the control of the new ministry. Addison who was President of the Local Government Board and

responsible for piloting the Bill through Parliament argued in a famous memorandum (6) that the Committee should remain independent. He was firmly of the opinion that scientific bodies should not be directly under the control of the ministers responsible for health. He believed that a minister would not wish a research organization which was under his control to do research or produce conclusions that conflicted with his policy. I quote: 'He (the Minister) would therefore be constantly tempted to endeavour in various ways to secure that conclusions reached by organized research under any scientific body, such as the Medical Research Committee, which was substantially under his control, should not suggest that his administrative policy required alteration.' Addison's viewpoint was adopted although at the time the proposal was a novel one. The result was the Medical Research Committee, and the Medical Research Council that grew out of it prospered, the Government had a source of impartial advice and scientists employed in medical research had confidence that their support came from a scientific organization.

The Medical Research Council supports research in a number of different ways. The National Institute for Medical Research and the Clinical Research Centre are wholly supported by MRC funds and directly administered by it. MRC units are also directly supported by the Council but are usually located in university departments or hospitals. The Council supports research in universities and the NHS by establishing research groups and by giving long- and short-term project grants.

The Council determines general policy and operates through three research boards (biological, clinical, and tropical) and a number of grants committees. Half the members of the Clinical Research Board are nominated by the DHSS. The MRC budget comes from the Department of Education and Science.

Grants committees are staffed by scientists who are mainly drawn from university departments, and aided by referees they decide on the scientific merit of the applicants' proposals. The relevant research board then makes a decision taking into account the mark for scientific merit, any priorities decided by the Council, and the funds available. The boards also set up visiting groups of scientists to review at intervals of approximately five years the work of units, groups, and recipients of other forms of long-term support.

Until recently the MRC played a very limited role in supporting

research into health care, although it now supports some activities in this field. These include the Social Medicine Unit, the Epidemiology Unit, the Medical Sociology Unit, and the new joint unit with the DHSS at Northwick Park. The most recent annual report of the MRC expresses a willingness to support more work in this field.

The MRC has been criticized for its tardiness in supporting health care research. There is little doubt that lack of definition concerning the dividing line between work that might be properly supported by the MRC and that which should go to the DHSS deterred some potential applicants. Possibly the MRC found those applications which it did receive more difficult to evaluate than the usual type of laboratory or clinical research project and it did little to encourage them.

The total MRC expenditure on health care research is not specified in its report but probably does not exceed £200,000 per annum and may be less. In the last eight years, and particularly in the last three, the situation has been greatly altered by the DHSS contributing substantial sums to health care research.

Research supported by the Department of Health and Social Security

For many years the direct contribution to research made by the DHSS was minute. A small annual sum, known as the Chief Medical Officer's Research Fund was available but when the present CMO took office this sum had scarcely changed over a hundred years. In the last eight years there has been increasing recognition of the importance of operational research in such a large spending department and, in consequence, a rapid and substantial increase in the sums provided for research.

Research supported by DHSS falls under four main headings:

Medical, social, scientific, and operational

This heading covers research programmes and research units as well as a number of single projects. The total revenue allocation is approximately £1 million per annum.

Medical equipment, supplies, and appliances

This programme is mainly concentrated on developing sophisticated hospital equipment. Much of the work done is in other government research establishments such as AWRE and Porton. One research unit has been established, the Biochemical Technology Unit under Professor Whitehead at Birmingham. The revenue allocation under this heading is approximately £1,400,000.

Public health

This programme covers such matters as the control of communicable diseases, safety of vaccines, biological standards, and so on. The estimated budget under this heading is about £400,000 per annum.

Locally organized clinical research

These funds are made available at local level for research and development work and at present amount to about £860,000 per annum.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY RESEARCH UNITS

Eight units have been set up with broad terms of reference. Such grants are usually made under a formal contract with the academic institution in which the unit is housed. The scope and content of each unit's work is guided by an advisory committee which includes some members who are not drawn either from the academic institution concerned or the Department. The units and their directors are as follows:

The Social Medicine and Health Services Research Unit
Professor W. W. Holland

The Wolfson Institute of Biochemical Technology
Professor T. P. Whitehead

The Addiction Research Unit (jointly with MRC)
Dr J. G. Edwards

The Unit in Epidemiology and Medical Care (jointly with MRC)
Dr T. W. Meade

The Institute of Biometry and Community Medicine
Professor J. R. Ashford and Dr N. G. Pearson

The Hospital Organization Research Unit
Professor E. Jacques

The Medical Care Research Unit
Professor D. J. Newell and Dr J. H. Walker

The Special Hospitals Research Unit
Professor T. C. M. Gibbens and Dr T. G. Tennent

I understand that at least one additional research unit is in course of formation.

These units are set up for a period of up to seven years with a major review at five years. The scale of financial provisions varies between about £20,000 and over £100,000 per annum (11).

RESEARCH ADMINISTRATION

There are two main approaches to the support of research. The first is to advertise that grants will be made and create a machinery for processing, evaluating, and supervising them. Most MRC grants are examples of this type of support. The second is to decide that a particular problem is ripe or an attack on it is necessary and create a suitable organization to tackle it. This method has had great successes especially in the field of technology, for example, the Manhattan project or project Apollo but it has had notable and expensive failures such as TSR2 and Skybolt. One difficulty with the second type of approach in the health care field is that political or social pressures may require that investigations should be mounted on conspicuous problems when the advances in knowledge that might permit a solution have yet to be made. The Secretary of the MRC recently made the point that there is no need for the Secretary of State for Health and Social Security to tell the MRC that we wish to prevent or cure cancer, mental disorder, and coronary thrombosis. We all know that. The difficult task is to find ways of solving these problems. Relevance is not enough; a rational basis for advance is needed otherwise research by objective may lead to diversion of productive effort and waste of money.

With both types of support careful assessment before making grants and a machinery for evaluating long-term support is essential if effective use is to be made of limited funds. There may be an element of 'floating bread on the waters' in some grants made to young research workers beginning their career but larger-scale support should normally go to workers who have shown evidence of effective and continuing performance.

A network of research advisory committees and referees has been found essential by both the MRC and the NIH in the USA. The DHSS does not yet possess a fully developed organization of this kind and it would be expensive and difficult to build up an equivalent organization to that possessed by the MRC.

It is also important to have a scientific administration that can command the co-operation and respect of research workers. In the past the MRC has succeeded in recruiting such men and women no doubt partly because of the esteem in which the organization is held in the medical scientific community. Recruitment might present a greater problem for the DHSS if it wished to establish a similar organization.

The policy of the DHSS in respect of research support is not entirely clear. The decision to direct substantial sums into research was not widely publicized and there is no statement of over-all policies and priorities in this field. No policy board was constituted to review requests for support to avoid duplication, to prune inessentials, and to review work in progress. In most cases grants have gone to individuals or groups that were known to be already active in this field. Grant applications are normally sent to referees and the appropriate division of the department for comment. However the Departmental Research and Development Committee does not appear to be an adequate substitute for a body such as the Clinical Research Board of the MRC.

Provision of money does not guarantee a successful research programme. Some recipients of DHSS support have found it difficult to recruit suitably qualified individuals for health care research despite inducements. It has been argued that the importance of health care research justifies a period of generous support to get the subject established. This is a debatable proposition and an alternative view is that it might have been more effective to establish one, or possibly two, well-staffed centres and let the subject grow from this nucleus.

THE DIVIDING LINE BETWEEN DEPARTMENTAL RESEARCH AND THE MEDICAL RESEARCH COUNCIL

There is a close relationship between the MRC and the DHSS division concerned with research and they are represented upon each other's committees. For example, half the members of the

MRC Clinical Research Board are nominated by the DHSS. The DHSS takes the dividing line as being that they support service-orientated work while more general projects fall under the MRC. It is clear that this is a blurred dividing line particularly in the field of epidemiology where both the DHSS and the MRC are supporting work whose objectives are similar.

Future organization of research into health care

Research into health care is of fundamental importance in evaluating and reshaping health and welfare services. It is therefore of special importance that it should be established and fostered in an administrative framework that ensures it renders and maintains a high standard of achievement. This work overlaps many disciplines. At its outer limits there is no area of social policy and few of economic policy that may not be relevant to the health of the individual and of the nation. More narrowly defined, it must include fields of interest to sociologists, statisticians, economists, and epidemiologists besides the clinical professions. Assessment of research projects in this field is much more difficult than in the natural sciences or medicine. Some scientists such as Zuckerman (8) would go further and say that social science is too bedevilled by assumption, prejudice, and unproven hypothesis to contribute much to objective truth. The SSRC in their most recent Annual Report (9) have drawn attention to the difficulty of applying objective criteria to research projects which come within their remit. Much greater effort and paperwork have to be expended by the SSRC per pound of research money distributed than is the case for the other research councils.

Yet no one can deny that the provision of health care is complex, expensive, and does not always live up to the highest promise. It is undoubtedly capable of improvement and the accumulation of useful information and the conduct of experiments to test proposed improvements must have the highest priority. There is a number of possible arrangements for organizing research in this field and it is worthwhile considering the main advantages and disadvantages of the alternatives.

SOCIAL SCIENCE RESEARCH COUNCIL

Many of the activities in the field of health care research impinge on subjects in which the SSRC is interested. However, grouping health care research under the SSRC would tend to isolate it from the skills and knowledge in the DHSS and the MRC.

RESEARCH DIVISION OF THE DEPARTMENT OF HEALTH AND SOCIAL SECURITY

It is essential that the DHSS should have a strong research and development division. Medicine is still in a phase of rapid change and the DHSS has the responsibility of introducing into practice those innovations that have proved to be of value and where there is doubt about them, initiating work to resolve it. Developments in biochemical technology, chronic haemodialysis, and cancer screening have been well handled by the existing organizations which may need to be further expanded.

There are more problems with health care research. There are arguments for retaining this work under the departmental research division. The department then has immediate access to advice and is able to initiate research if and when it becomes necessary. An outside body might be more difficult to persuade to undertake a dull or time-consuming project that was of importance in deciding policy. Furthermore research done within the departmental organization is more likely to be directly relevant to practical problems of the day and thus more likely to lead to action. On the other hand initiating a research project could turn out to be a way of avoiding a difficult administrative decision. There is the possibility, however remote, that research might be used as a means of buttressing departmental policy rather than forming it. Research sponsored by the department might tend to concentrate on short-term problems and neglect a more far-seeing approach. How far ought the DHSS to create an organization which duplicates, in a small country, much that is already done by the MRC?

INSTITUTE OF HEALTH CARE (OR PUBLIC HEALTH)

Other countries, for example Yugoslavia, have approached this problem by founding an independent Institute for Health Care

Research which has a basic financial allocation from the state and does additional work on a contract basis. A National Centre for Health Services Research and Development has been established in the USA. Such an institute here would have the advantage of independence from government. It would provide a strong academic base and could provide training for members of different disciplines such as sociology, economics, and the health professions in the field of health care research.

Possibly the London School of Hygiene and Tropical Medicine could serve this function in the UK if its constitution was altered. The recently introduced MSc course is a valuable contribution to training more workers in the field. Unfortunately, the School of Hygiene lacks clinical contacts and it is doubtful if it could easily be adapted to this changed role.

HEALTH CARE RESEARCH BOARD OF THE MEDICAL RESEARCH COUNCIL

The MRC could establish a new research board or a special subcommittee of the Clinical Research Board with a different composition from that of the existing committees. The board would need both economists and sociologists among its members and there would be much to be said for including one or two members of DHSS staff instead of having them only as assessors as is the case in the present structure.

This arrangement would have the advantage of making use of an existing organization and containing health care research within the same framework as other biomedical research. The MRC is already involved in this type of work and it would avoid duplication of both facilities and administration.

Another possible solution which has been discussed is to place the MRC under the DHSS instead of the present arrangement with the Department of Education and Science. This is a proposal which causes great anxiety among those who know and value the work of the MRC. Many fear that this would mean a loss of independence and possibly bring about an undesirable reallocation of resources between fundamental biological and applied medical research in favour of the latter. Advances in medicine most often take place from a springboard supplied by non-clinical scientific research. Medical research workers know this but sometimes doubt how far

it is appreciated by practitioners and health service administrators.

A better solution is to retain the present administrative position of the MRC and to create a new subcommittee of the Clinical Research Board or a new board charged with the support of research into health care. A block grant from this board to an Institute of Health Care Research might be a way of creating better facilities for training suitable workers who wish to enter this field.

EXPERIMENTS WHICH INVOLVE CHANGES IN THE DELIVERY OF HEALTH CARE

Most research into health care carried out so far has been designed to observe and record the existing situation. Much can be learnt by comparing results obtained by different consultants and hospitals because policies for handling particular types of patient vary so widely. An example is the Hospital In-Patient Enquiry and the more recently developed Scottish Consultant Review of In-patient Statistics (SCRIPS) (10). Every region and hospital board should be encouraged to collect and feed back information about working practices to their staff as a routine matter to improve local efficiency.

There is also a need for research which deliberately sets out to change a working practice or a method of organization with the aim of testing a hypothesis. This type of project is particularly important when various suggestions are being made about the organization of health care both in terms of administration and the proportion of health care that should take place in the community and in hospital. Two examples may suffice:

It has been suggested that doctors in large group practices should specialize in subjects such as paediatrics, obstetrics, psychiatry, etc., to provide a more interesting working life for the doctor and a better service to the patient. An experiment along these lines would be interesting and valuable. It is unlikely to happen without powerful support from a central research body which might have to take over the practice concerned for a period of five to ten years. Although it might be difficult to contrive such an experiment in an existing practice it would be feasible in a new town.

Integration of the present tripartite health service is admitted on all sides to be desirable. Opinions on how this might be accom-

plished are varied and usually lacking in detail. There has been little attempt to evaluate the advantages weighed against the disruption. An experiment using a district centred on a medium-sized town with a single district general hospital would be of the greatest value. Such an experiment would need the goodwill of many different people and this might not be easy to obtain. Here again, a research organization independent of but supported by the DHSS might find it easier to carry out such an experiment because it would not be felt to be committed towards a particular result.

Interaction between research and policy

Many well-intentioned reports gather dust and their recommendations are never implemented. This is particularly prone to be the case with *ad-hoc* government committees because there is usually no follow-up. If, for some reason, no action is taken upon recommendations of a committee or commission investigating a problem the dissolution of the committee after it has reported guarantees that those best qualified to do so cannot exert any continuing pressure.

Both the main proposals in this report would provide the health department with a source of intelligence and recommendations concerning the present and future running of the NHS. Both bodies, Health Care Committee and the Health Care Research Board should make an annual report so that their findings and advice are brought to public notice. However, it must be anticipated that from time to time little attention will be paid to them. What is required is a body that takes a continuing interest in the development of health services and which cannot be silenced by an unpublished political or administrative decision. How is such a body to be provided?

It is important to emphasize that the development of health services should not be a field which is left entirely to the epidemiologists, sociologists, and economists. Medical, nursing, and paramedical personnel must realize that such developments are of importance and that their skills and knowledge are relevant to any changes in organization or practice that are proposed. I do not argue in this way because I fear that clinical staff might be

adversely affected by decisions that they have abandoned to others (although they might be) but because I believe that there must be a measure of agreement about the right course of action if any real change is to be made in the pattern of health care offered in Britain.

Here again, Himsworth has something useful to say about the role of the scientist in the administration of research. 'Nevertheless it is doubtful if the scientific community have as yet fully appreciated the extent to which scientific development depends, and will increasingly depend, upon the willingness of suitable scientists to devote themselves to such tasks or the conditions under which such men should operate.' The same is true with even greater force in the medical community.

The body most likely to play the role I have described is the Central Health Services Council. The Central Health Services Council was set up, 'to advise the Minister upon such general matters relating to the service provided under this Act, or any services provided by local health authorities in their capacity as such authorities, as the Council thinks fit and upon any questions referred to them by him relating to these services'. The CHSC has four standing advisory committees: medical, dental, pharmaceutical, ophthalmic. The standing advisory committees are statutory bodies and the CHSC itself does not often appear to play an effective role apart from approving or rejecting their reports. I am not familiar with the work of the majority of the standing committees but believe that the Medical Committee has done useful work on specific problems referred to it by the Department.

The CHSC is an example of a body familiar in British life that is so large and its members so distinguished that it is almost bound to be incapable of initiative unless it has a clearly defined task within a strong administrative framework. It has some forty members including the presidents of the Royal Colleges and other distinguished and busy men although it is stated that they serve as individuals. If the CHSC had chosen to act differently it might have had an important influence upon the development of the NHS and it still could be if it took an active interest in the quality and provision of health care.

I propose that the CHSC sets up a development committee to receive the reports and recommendations of the Health Care Committee and the Health Care Research Board. The terms of reference

of this committee would be to keep continually under review the quality of health care provided by the NHS and to make recommendations about changes in the Service to take into account new ideas and past deficiences. Some of its members should be appointed because they already serve on the research board or the committee controlling the AHC. The development committee should have a secretariat which would enable it to take a continuing interest in matters that it had considered. It would be appropriate for this body to make inquiries as to whether problems identified by the AHC had been solved.

If the development committee functioned effectively it might be appropriate to put the Committee on Health Care under its wing at a later date rather than to establish a separate statutory body to carry out this work.

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The organization of the consultant services

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The organization of the consultant services

Summary

These three papers concern the organization of the consultant services, a subject which should be debated as an essential part of the current reconsideration of the structure of the NHS. Public consciousness of lack of integration between the hospital service, the local health authorities, and general practice has to a degree obscured the fact that a gap has been developing between the district hospitals and the teaching hospital groups which might become equally or more damaging.

The upgrading of the district hospitals is one of the major achievements of the NHS and was pioneered by consultants who brought to the effort the experience they themselves gained in the teaching hospitals. Their very success—they now cover 90 per cent of all hospital treatment—has imposed a steadily increasing and sometimes intolerable work-load in service, teaching, and administration which has not received adequate acknowledgement and backing. They are dissatisfied also because they can no longer maintain their previously high standards and look forward to an uncertain future partly because their junior staff are also justifiably dissatisfied with a lack of promotion prospects. The high emigration rate amongst the best-qualified juniors is evidence of both effects.

Given effective focus for their discussion, these problems could be solved by providing a better pattern for the two elements of the hospital world, training and patient care.

Postgraduate medical centres have already ameliorated some of the problem by providing both a facility for training and research and also for better communication between the different strands of the medical profession. It is now necessary to support morally and physically the regional consultant, who has largely shouldered responsibility for these centres, by arranging the rotational appointment of junior medical staff in training between the teaching and district hospitals. This will give them early clinical responsibility and a wide experience; at the same time it will take some of the almost intolerable load off the regional consultant.

In Western Scotland a feasibility exercise has shown that with the supervision of a purposely appointed supervisory committee it is possible, at least in some regions, to maintain rotational surgical appointments between teaching hospitals and district hospitals thus giving the ambitious young man a proper width of experience outside the teaching hospital and at the same time the more diffident man a fair opportunity of advancement. Further feasibility studies of this kind should be set up in other regions and for other specialties.

Some attention must also be paid, at least in surgery, to the problems of increasing age in an arduous profession where existing pension rules may force the continuance of clinical duties until retirement, at a pressure above the safety margin for the surgeon or his patient. There should, for instance, be more mobility in the latter as in the earlier part of a surgeon's career.

Better co-ordination of training demands the acceptance of the multidisciplined district general hospital as the centre for training outside the teaching hospital; its standards of facility and material for education and research will provide to junior staff the incentive they need.

At the same time the district general hospital, when backed by superspecialist centres above and a chain of smaller hospitals at the periphery, is the only means to a high standard of progressive patient care. Only through these district general hospitals, serving some half a million people each,

can faculties of the subspecialties be brought together to provide the right measure of experience, intercommunication, and teamwork. The smaller hospitals will be an essential part of this pattern to provide convalescent and geriatric care near the patient's home, a diagnostic base for the GP and out-patient consultant, and the focus of the community health and welfare services.

The image of the district general hospital may not be popular at present with all sections of the population but provided that it is sited conveniently for transport and communication and is supported by motels and other modern facilities, and provided that the medical need for this kind of institution as a focus of high-quality acute care is openly explained, they will be accepted and become integrated into the community. The planning and explanation to the public that this will fall to the new authorities—the NHS which must have their objectives right.

The development of consultant surgical services

K. Lloyd Williams

This essay is concerned with the development of the surgical services in the next decade, particularly their manning and organization.

Social and economic changes, coupled with changes in medical knowledge and technique have produced pressures affecting the health service. There is discontent among the young because of lack of opportunity, and discontent among the old who feel they are carrying too great an administrative burden on top of an overwhelming clinical load.

The changes envisaged will require some redeployment of resources, so that maximum use can be obtained from dwindling nursing numbers.

Job satisfaction can be increased in a rationalized and properly integrated system of health services appointments.

The direction in which movement must be encouraged could be summarized by the following:

1. The co-ordination of both hospital worlds (i.e. 'teaching' and 'non-teaching') to provide a proper and continuing training programme for consultants as well as a more equitable sharing of community load.

2. Acceptance of multidisciplined district general hospitals of the

size large enough to provide adequate teaching and postgraduate facilities both to attract junior nursing and medical staff, and to apply more rational deployment of medical and nursing resources.

3. Earlier 'responsibility' appointments for surgeons and more mobility of surgeons when once in consultant grade.

4. A hospital building programme attuned to modern surgical concepts of progressive patient care.

Social changes

CENTRALIZING THE SURGICAL SERVICES

Surgery in small country hospitals is nationally too expensive and for the patient too hazardous. Adequate diagnostic, resuscitation, and intensive-care facilities dictate that surgery should only be performed where such facilities can be economically grouped together, as in the district general hospital. Looking to the future it seems inevitable that good calibre medical and nursing staff will be attracted only to centres where full training programmes can be organized. Inevitably therefore there will be fewer hospitals throughout the country where surgery can justifiably be performed. But people will not be prepared to travel long distances to hospital, even in this age of the motor-car, unless they are convinced by adequate assurances and information, that it is in their interests to do so.

INFORMATION SERVICES

Doctors have traditionally fought shy of publicity. Hence, the mass media and local papers tend to expose deficiencies in the NHS or examine personal sagas of discontent or misfortune. A more positive approach is needed to show to the public improvements in the NHS, to keep them informed on local facilities and to present to them the advantages of the district general hospital concept. In this context, research reports based upon the district general hospital are a fruitful way of demonstrating progress in community hospitals, and often provide a means of enlisting both public and financial support, welding together the hospital service and the community it serves.

Because of its very size, the NHS may appear remote and

bureaucratic, but the essence of medicine lies in the personal relationship between doctor and patient. Just as the community needs the hospital, so does the hospital need the support, interest, and enlightened criticism of the people it serves. The cottage hospital, in close contact with its public, can rely on voluntary services and goodwill, but the district general hospital, of necessity more distant geographically, will be more distant emotionally and alien to many patients. A little money spent on local information, utilizing the regional press and radio, would help to integrate it into the community. An information officer, paid for by the NHS, might be appointed to each district hospital, to inform its public of progress, improvements, and new facilities. Local fund-raising efforts could be encouraged, not only to supply extra amenities, but also to aid in the involvement of the people with their hospital. Within the hospital itself, a very positive effort in communication will be necessary on the part of all staff, to establish and maintain personal contact with the patients.

HOSPITAL PLANNING

Centralization of surgery in district hospitals will mean a different approach to hospital planning. The surgical patient requires concentrated attention during only brief parts of his hospital stay. In these brief periods, a multidisciplined approach and competent nursing may be essential and must be available. Thereafter, with early ambulation following surgery, he may require only a minimum of medical and nursing supervision. The pattern for the future may consist of intensive multidisciplined investigation in a motel attached to the district hospital, treatment in the hospital itself, and convalescence in either the motel or a GP hospital nearer home.

INFORMATION TRANSFER

Such a movement of patients from one place to another would require a far more efficient means of communication between the hospital and the GP than currently occurs. Consideration might be given to business methods of information transfer, for example, Telex or video-links, between the district general hospital and GP hospitals and health centres.

GEOGRAPHICAL SITING

In the past, London hospitals were situated at rail heads, which was geographically correct for the 1890s. Today, rail and bus services become fewer and more expensive, but the decrease in public transport is offset by the growing numbers of families with a motor-car. The social change of every other family owning a car has relevance in both the siting and design of new hospitals. Perhaps, like the American supermarket, hospitals should be at the periphery of towns, with access to urban motorways, and with adequate provision for car-parking. Patients from the periphery of the area who require special investigations, or treatment such as radiotherapy will need some from of accommodation, preferably of a hotel nature. Motels attached to the hospital for the use of such patients, or even visitors, might be contracted out to private hoteliers at less cost to the NHS than a hospital bed.

INVESTIGATION SERVICES

The importance of rapid, full investigation of the individual patient has perhaps not been adequately costed in the Welfare State. It is not uncommon for a patient in the periphery to wait six weeks for an appointment with a visiting consultant surgeon, a further six weeks for a barium meal to be performed at his cottage hospital by a visiting radiologist, and yet another three weeks for the surgeon to get the report, see the patient, and inform the GP. During this time the patient may well have had fifteen weeks of sick pay; the cost borne by the State and not by the NHS. If he, rather than the consultant radiologist, had travelled, his time off work and his anxiety would have been considerably reduced, and so would the cost to the State.

GERIATRICS

Medicine itself is partially responsible for one of the most obvious social changes of our generation: the ever-growing number of old people in the population.

Geriatric surgery poses a special and increasing problem, the major challenge of the next decade. Old people have surgical emergencies and conditions, often of multiple pathology, requiring

relatively more operating time, more post-operative care, and longer convalescence. They have social and rehabilitation difficulties, with which a general surgical unit, as presently designed, cannot cope. There is need for integration between hospitals, welfare organizations, and GPs, if this problem is not to cripple the surgical services for the younger, working section of the community.

COMMUNITY CARE AND SPECIALIST SERVICES

The concept of the district general hospital is frequently distorted by the assumption of its standing aloof like an ivory tower. Yet it should not be considered alone but as part of an integrated service of local hospitals and health centres, to form one coherent system.

An area organization should consist of a central teaching hospital, linked to satellite district general hospitals, which in their turn would integrate with smaller hospitals manned by GPs. In this pattern, the district general hospital would provide the main focus for surgical care.

The district general hospital should serve a community of approximately half a million inhabitants. Its surgical faculty should consist of six or more general surgeons responsible for the general surgical care of patients within the area and for emergency care on a rotational basis. Individual special interests should cover thyroid surgery, vascular, oesophageal, and alimentary surgery, etc., and be correlated with the established specialist services of gynaecology, orthopaedics, ENT, ophthalmic, and uro-genital surgery, also available at district general hospital level.

The creation of such a multidisciplined centre as a district general hospital would lead to a restoration of contact between the specialties and to the continuous improvement of over-all standards by the resulting cross-fertilization of ideas and techniques. The welfare of the patient demands a combined approach and it may well be that the rigid divisions between disciplines have often provided a barrier to effective patient care. The team approach, as accepted in intensive care, with co-operation between surgeons of differing disciplines and physicians, will be the pattern of hospital medicine in the future.

A postgraduate centre would be necessary for each district general hospital. It should have library facilities, planned courses

of teaching for junior staff, and interdepartmental meetings. It should provide a forum for communication between the differing disciplines within the hospital, between the medical staff at all levels, and between hospital doctors and GPs. Time should be made available, by rule, for all staff, for such communication to take place. The centre would help to obviate the dichotomy between the hospital and GP service.

GP hospitals should be preserved, because they would provide neighbourhood care for geriatric and post-operative cases, for the occasional patient admitted for social reasons or for observations.

The GPs themselves wish these hospitals to be maintained. Although major surgery and major investigations should be removed from this sphere, they can still be more than convalescent or geriatric hospitals. They can be the focus of the health and welfare services of the locality, a forum for the local GPs, and remain diagnostic centres in their own right if an adequate communication link is established with the district hospital. The increasing automation of pathological and biochemical investigations requires great expenditure on equipment and therefore centralization. Patients will sometimes have to travel to the district hospital for special investigations in the diagnostic unit, but often the patient can stay at home, and a specimen of blood or urine can travel in his stead. With a proper information transfer service the GP can utilize the central facilities to diagnose and treat many of his own patients, as he was trained to do. Contact with the GP groups should be further maintained by consultant out-patient sessions in either peripheral health centres or hospitals. Such visits are justifiable economically, and are valuable in integrating the service, for clinical consultation, and for educational purposes.

In addition to this basic pattern of hospitals, centres of a highly specialized nature will be needed within the area. It should be possible to forecast the area requirements for centres of this type. For example, a paediatric surgical unit could serve two district general hospitals. A cardiovascular or neurosurgical unit could serve five or six. The units could either be attached to the teaching hospital, or be distributed among the district general hospitals, according to the population and geographical requirements. They should not exist in isolation.

The concentration of specialist services into units of this kind has advantages for patient care, research, and training of staff, but

involves some rethinking as to means of transport. For example, neurosurgical patients travel well, but properly equipped ambulances or even helicopter services would have to be organized. In the foreseeable future, cardiac, paediatric, and neurosurgery, organ transplants, and the treatment of burns will still have to be carried out in regional centres. But certain services which are at present only available in specialized centres may well migrate to a more appropriate place at district general hospital level, much as peripheral vascular surgery has done in recent years, for example, plastic surgery may be more suitably combined with the accident service of the district general hospital. Such organization may well require, as envisaged in the Redcliffe-Maud Report, regrouping of facilities and a greater degree of local autonomy. There could well be administrative and economic advantages in controlling not only community medicine, but also public health, transport, and social services at district hospital level.

TOWARDS A PROPERLY INTEGRATED SERVICE

While it is easy enough to see the shape of a system towards which the logic of events must force us, there are areas of interest which must get immediate attention in the 1970s, and any reforming movement must include provision for them. Primary among them is the co-ordination of the teaching and district general hospitals.

Thus in the provinces the gap between GPs and hospital doctors has narrowed in the last few years. As well as contact over individual patients, the growing number of postgraduate centres, sited within the hospital, and the increase in GP clinical assistantships have tended to draw the family and hospital doctor together, with consequent over-all improvement in the service. A less happy state of affairs exists between the two hospital worlds of teaching and non-teaching centres. Here communication lines are less developed and there has been less opportunity for the interchange of people and ideas. Because the brunt of the clinical load falls upon the district surgeon, he has little time or energy left for the perpetual re-education necessary in medicine today. He has little contact with the teaching hospital, which itself may be unwilling, or geographically unsuited, to accept its role at the hub of the community surgical services.

The regional teaching hospital and other highly specialized

units in the area should be closely allied to the district hospitals. Present difficulties in this liaison may be overcome in part by current trends in development. For example, the increased intake to medical schools will force the delegation of more undergraduate teaching to the districts. The systematic organization of postgraduate courses will involve both district hospital, as well as teaching hospital, consultants in planning and participation.

The more frequent appointment of consultants with sessions at both district general hospital and the teaching hospital would help to cement the alliance.

But more important than this is the interchange of surgeons in training between the two types of hospital. The time has come to use the whole of the surgical service for training purposes. Experience and personal responsibility for the patient are integral parts of a surgeon's training. The district general hospital could provide more opportunities for this aspect of postgraduate education than the teaching hospitals as presently organized and sited. The free interchange of junior surgeons on a rotational basis, would be of mutual benefit to both hospital worlds. The teaching hospitals would be able to offer their graduates ample surgical experience and a wealth of clinical material, by co-operation with the periphery. The district hospital would gain from the influx of junior staff of high calibre. There would be a more equitable sharing of the surgical load in the area, the weight of work being at present almost intolerable for surgeons in non-teaching hospitals. Plentiful good junior staff would allow more opportunity for the district surgeons to keep up to date, and for clinical research to be pursued at the place where the patients are available.

Such changes, fully implemented, would improve the relationships between the hospital worlds, but it seems probable that, in the long term, the whole pattern of consultant appointments may need reappraisal. There is not enough money simply to appoint large numbers of new peripheral surgeons or to pay for the expanded facilities they would require. The extra theatre and nursing staff cannot be found even if the finance were available.

LATITUDE AND MOBILITY IN THE CONSULTANT GRADE

Alterations in the pension scheme to allow older surgeons to reduce their sessions and income, but not their pension rights, might be

one method of providing at least some of the extra surgeons, without much strain on current resources.

Surgery is both physically arduous and mentally taxing. Provincial general surgeons, on average, work far more hours than their sessional basis provides for. In the Bath Clinical Area, only two surgeons since the coming of the NHS have survived long enough to benefit from their pension. The present pension scheme does not allow the provincial surgeon to ease his work-load as he grows older by cutting down his sessions, for his final pension is calculated on his last three years' earnings. Hence he is either working at full pressure or not at all.

Under these circumstances, if he can afford to retire early he will do so, thus depriving the NHS of the benefit of his experience. Were he allowed to function truly as a consultant in his last few years, with loss of sessions and income, but not of pension, there would be an increase in the number of jobs available for young consultants, with little increase in cost to the NHS. There would be a proper lessening of work-load with advancing age and an opportunity for the young to gain by consultation from the experience of their elders.

If in addition the concept of mobility within the consultant became acceptable, the elderly surgeon could have the option of taking up a smaller number of sessions in a more congenial area, and it might be easier to man the less popular regions of the country—although to achieve this, some element of compulsory direction in the first few years as a consultant might be necessary. (This would no doubt be acceptable if consultant appointments were made at 35 instead of 42.)

CONTINUING EDUCATION

In an age when five years can produce a revolution in treatment, no virtuoso can encompass the whole spectrum of surgical knowledge, and a good doctor must remain a learner all his days. The Royal Commission on Medical Education has considered the undergraduate in great detail, but paid less attention to the administrative aspect of postgraduate and continuing education. In many parts of the country, overseas graduates are accepted for surgical training and find themselves providing the surgical service without adequate supervision or opportunities for study. Most overseas

doctors return to their own country with the accolade of a British training, but too often the training has been of the 'teach-yourself' variety. Yet in other areas, 37 per cent of British graduates who become surgical registrars eventually settle abroad (1) although 74 per cent of these had acquired a fellowship and presumably were dedicated to, and capable of, a surgical career. Some wastage is inevitable, but this sort of imbalance seems economically sad. In the western world young doctors are a highly marketable commodity. They will not go to provincial hospitals if they are not offered stimulus and training to compensate for the golden guineas or dollars they can command elsewhere. Hospitals today cannot function without resident staff. There is no doubt that the 'best buy' for the NHS would be to satisfy its junior doctors with intellectual stimulus, increasing facilities, and opportunity.

THE SURGICAL FAMILY

It becomes obvious that more peripheral consultant appointments are needed. But if the money were available and the necessary increase in peripheral surgeons should take place, one must beware of arriving at a situation where 'all are chiefs and there are no Indians!' The old need the young as a stimulus to perpetual education, and the young need the experience of their elders. The extended surgical family (if there is certainty of progression within it) provides stability and opportunity for two-way education within its framework.

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Postgraduate training and patient care

Sir Charles Illingworth

The 1970 Rock Carling Fellow, who in his monograph had stressed the need for keeping the whole question of training under close consideration to meet the requirements of the time, was asked to amplify this thesis as a companion piece to Mr Lloyd Williams's essay.

Medical education and hospital work have always been closely related. In olden times students walked the wards and doubtless performed menial tasks in payment for their keep. Now the hospital system would break down without the services of its postgraduate trainees. Clearly the two elements, training and patient care, must be considered together.

Undergraduate teaching has traditionally been confined to the few hospitals within easy distance of the medical schools, a necessary restriction for geographical reasons to enable students to attend lectures as well as clinics; but in recent years some medical schools with flexible curricula have given final-year students an opportunity to go further afield, to work in a district hospital or overseas, to their evident advantage and satisfaction.

Postgraduate education (as distinct from simply the acquisition of experience) has also been mainly confined to these hospitals but for different reasons; for research facilities, for experience in special units, for work with a particular chief, and, most important of all, to avoid losing a foothold on the promotion ladder. But this practice has also been modified in recent years to the extent that in some areas rotation schemes have enabled registrars to widen their experience without losing contact with the centres of influence.

There are evident advantages, alike for the trainee and for the hospital service, to be gained by extending this practice.

From the point of view of the trainee aiming at a career in one of the main divisions of hospital work, the experience to be gained in a main teaching hospital, in a district general hospital, and in a specialist unit are complementary; and none alone is enough. The registrar in a main teaching hospital will expect to see the most expert work and hear about the most recent advances, but the range of clinical material may be small and his own opportunities for patient care will be limited. At the district general hospital he will have more individual responsibility and a wider field of work but with little time for reading or study. At both the teaching and the district hospital there will be gaps in his training which can only be filled by working in a specialist unit of paediatrics, cardiology, urology, neurosurgery, and the like.

Similarly from the point of view of the trainee aiming at a career in one of the specialist fields or in the general practice of the future the experience must come from a series of appointments in different hospitals suited to the particular career in view.

The royal colleges have published schemes of training desirable for trainees in certain fields of work. Thus for surgery they have laid down as a condition of entry to the final part of the fellowship examination a three-year period of registrar training which may be summarized as follows: (1) a year in a full-time hospital appointment in general surgery (or a rotating appointment giving a general experience of surgery) and (2) two years in hospital posts in general surgery or surgical specialties or both; or (as regards one of these two years) in the study of surgery or an allied science in a teaching hospital or research department.

Some of the specialist associations have also published information about the training recommended in their own branches of work. For example, in orthopaedics a four-year period of specialist training is recommended, of which one year may be taken as part of the three-year registrar programme for the fellowship.

The Joint Committee for Higher Surgical Training has recently taken a further step towards defining suitable training programmes and proposes to designate approved specialist training posts, to give career guidance and to certify those who have satisfactorily completed their specialist training.

Unfortunately, although these guidelines are generally accepted

there is no general plan for putting them into operation. There are problems of timing and availability. The trainee has to depend upon the chance that a suitable job will turn up at the right time and in the right place. He will have to seek a succession of posts in different units, perhaps in different hospitals under different authorities, and their conditions of service, their dates of starting and duration of tenure will be determined by service needs and may well be unrelated to his requirements for a proper training sequence. Under these conditions it is not surprising that many trainees direct their attention not to the kind of training they ought to acquire but to the kind of influential support they ought to encourage.

As a result, registrars may now be classified into two groups. There are the more ambitious or more far-sighted men who spare no pains to obtain a subordinate post at their own teaching hospital and to stay there on unrewarding duties through the long years of house-officership and registrarship, with the expectation of ultimate preferment; and on the other side of the fence there are those, including most trainees from overseas, who work in the district hospitals on more responsible duties but with little hope of advancement.

Possibly this individualistic approach is the best one. It has always been in the nature of things for young men to wish to carve their own careers. The more ambitious have always sought to hitch their wagons to the stars. The others (changing the metaphor) can go to the wall. But even the ambitious men who know where they are going might appreciate a more clearly lighted pathway; and at the other end of the scale there is a clear duty imposed upon us to see that the overseas men on whom we depend for patient care should get an adequate training before they return home.

The Royal Commission, referring particularly to the period immediately after registration, recommended 'an essential feature would be training progress through a planned series of 6-months or 12-months appointments'. There can be no doubt that equally in the period of specialist training there is need for a correlated system of appointments which while serving the primary purpose of providing for the care of patients would also give an organized and coherent scheme of training so that in a finite period the trainee would take a prescribed series of appointments providing the range and diversity of experience suited to his needs. Such a scheme

should be flexible, to allow trainees to express their preference for particular hospitals or particular departments, but it must give equal training opportunities for all, including overseas graduates, and it must give reasonable opportunities for promotion for all who are eligible.

In the West of Scotland a feasibility study has recently been undertaken, under the auspices of the Registrar Committee of the Regional Hospital Board, into such a scheme of training for graduates aiming at a career in general surgery or in the surgical specialties. It was conducted by a committee comprising general surgeons and specialists attached to the main teaching hospitals and certain of the district hospitals, and was based on evidence submitted at interviews with surgical trainees from the whole region (which in Scotland includes teaching and non-teaching hospitals).

The scheme under consideration was a more comprehensive version of a plan which has been in operation between one teaching hospital (the Western Infirmary), two district hospitals, and the Royal Hospital for Sick Children, for fifteen to twenty years, to the general satisfaction of staff and trainees.

The scheme offered a three-year training sequence, with one year in general surgery in a teaching hospital, one year in 'surgery in general' (which might include six months in such units as orthopaedics or urology) in a district hospital, and one year comprising posts of shorter duration in the various surgical specialist units. The third year, alternatively, might be occupied in a research appointment or a travel fellowship.

Trainees who had taken the primary fellowship would be eligible to join the scheme. Admission would be made after advertisement and after interview by a surgical committee representing all the hospitals concerned (teaching and non-teaching) and surgeons representing the regional board, the university, and the royal college. Following the practice already in operation for senior registrars, all trainees would be interviewed each year by a similarly constituted committee for career advice.

The scheme would utilize the whole registrar establishment for general surgery in the region and the greater part of the registrar establishment in the surgical specialties. The trainees would include a set proportion of overseas graduates. Trainees admitted to the scheme would be able to indicate a preference, in the first

year, for any one of the twenty-one 'firms' in the teaching hospitals; in the second year, for any one of the seventeen district hospitals in the region; and in the third year, for the various elective programmes in the specialties.

The number of trainees to be admitted from applicants eligible for promotion in Britain would be geared to the probable number of vacancies in the ranks of senior registrars, including general surgery and the specialties. It was foreseen that some kind of bridging arrangement would be necessary for those trainees who had completed the course and were deemed worthy of promotion.

A scheme of this kind would meet the requirements laid down by the Royal Commission, the royal colleges, and the specialist associations. It would leave a wide range of options open to individual trainees. Most district hospitals in this region have residential accommodation available, and incidental expenses for removal can be covered from government funds. The temporary changes of domicile would come at a time when for most registrars the problems relating to children's education have not become onerous. And above all other considerations it would bring to an end the shameful situation in which young graduates are utilized for long years to support the hospital service and yet given no assurance of continuity or promotion.

Our feasibility study showed that the scheme could readily be brought into operation in this region. It might not apply equally well elsewhere. In a small region with a large teaching hospital, as seen most notably in Aberdeen or Dundee, it might well be considered otiose; in a populous region with a relatively small teaching hospital, the disparity between numbers of registrarships in teaching and non-teaching hospitals might make it unworkable. These are matters that can only be determined locally by people conversant with the local situation. But at any rate the matter seems worthy of exploration. I suggest therefore that the next step should be to set up similar feasibility studies in different parts of the country, not only in relation to surgery but also medicine and obstetrics. Like the hospital surveys undertaken by the Nuffield Provincial Hospitals Trust in 1942 they might pave the way for a valuable development in the hospital service.

Problems of the regional consultant

John Lister

The preceding essays deal largely with surgical services and training in the provinces. Dr Lister, chairman of the National Assocation of Clinical Tutors, was asked to comment from the viewpoint of a consultant physician also working outside London

The problems of the surgical service in the NHS are only different from those of most other specialties in matters of detail and the present comments are an attempt to put into perspective the general problem of providing medical care from the point of view of a regional consultant.

It has frequently been stated that the upgrading of the regional, peripheral, or non-teaching hospitals has been one of the major achievements of the NHS. It has been achieved by staffing these hospitals with well-trained consultants who have built up teams on the same lines as those in which they themselves were trained in their own teaching hospitals. It is now estimated that about 90 per cent of the population receive their hospital treatment in regional hospitals, hereafter described as district hospitals.

Scope of work of the regional consultant

When first appointed many of these consultants found serious deficiencies both in terms of hospital accommodation and equipment and also in junior staffing arrangements. Many have been stimulated by the opportunities their appointments

offered and they have shown considerable enthusiasm in developing their departments. They have involved themselves in the planning of structural alterations to old buildings and in the planning of new hospitals. Many have established either formal or informal associations with teaching hospitals and have accepted undergraduate students on short-term clinical attachments for periods of elective study. From this there have followed arrangements whereby pre-registration appointments are filled by recently qualified graduates from the same medical school and rotating registrar appointments have often been similarly arranged.

The provision of an efficient service in a district hospital is quickly appreciated by GPs and the consultant who provides such a service invariably finds that he is also in demand for domicilary visiting and if he has a part-time contract, for private practice.

The development of postgraduate medical centres has become yet another demand on the time of willing regional consultants. What might be called the Postgraduate Centre Movement received its initial impetus from the Oxford Conference of 1961 which was organized by the Nuffield Provincial Hospitals Trust. It was at this conference that the idea of local centres of postgraduate medical education was put forward and the promise of initial financial help was given. As a result postgraduate medical centres have developed in many parts of the country. Often as the result of the individual efforts and enthusiasm of a small group of consultants and sometimes also GPs, interest has been aroused, money raised, and suitable buildings erected. The efforts of the clinical tutors in charge of these centres, most of them busy consultants in a wide variety of specialties, have been rewarding and the centres have become the meeting places for the whole of the medical profession in the areas they serve. Many of them have now established a high reputation for their academic programmes and there is little doubt that they have had a beneficial effect not only on the standard of medicine in the locality they serve but they have also promoted an excellent atmosphere between the hospital consultants and their junior staff and the GPs of the district.

And so the regional consultant has been able to develop the opportunity for a full and satisfying hospital practice, often with undergraduate students for at least some weeks of the year; he may have further contact with a teaching hospital through his pre-registration house officers and registrars; he may have a certain

amount of domiciliary visiting and private practice and some academic stimulus from the activities of his local postgraduate medical centre.

The anatomy of discontent

And yet as Mr Lloyd Williams has mentioned there are many regional consultants who will frankly admit that they are discontented. The reasons for this discontent are not easy to classify but seem to stem from a number of factors including the effects of divisions within the profession, a certain degree of disillusionment, and uncertainty for the future.

A DIVIDED PROFESSION

The rigid division of the profession into those working in general practice and those working in hospitals which has existed since the inception of the NHS has had many unfortunate consequences. The virtual exclusion of GPs from the hospitals at the beginning of the service caused great discontent amongst their ranks and was probably a major cause of the high rate of emigration of doctors a few years ago. Recent improvements in their financial position, better access to hospital facilities, and the encouragement of group practice with adequate ancillary assistance have all been important factors in improving the morale of GPs. Compared with these benefits, the regional consultants have seen their own financial rewards increased comparatively less generously while their workload seems to have steadily increased. Ironically this has been largely due to their own efforts to provide a high standard of medicine which has led to an increasing demand on their hospital time for treating patients and on their private time for practice and teaching. Their efforts in building up teams of assistants have also had results which, although predictable, were not properly appreciated at the time when approval was being given for new appointments of junior staff. Thus there has been an accumulation of significant numbers of trained registrars for whom no posts are available higher on the scale towards consultant appointment. Hence there has arisen the problem of reconciling the service needs of the hospitals with the training requirements of young graduates

aspiring to a career in hospital practice. The failure to discover a satisfactory formula for resolving this problem has led to discontent amongst the junior medical staff who have often felt that their interests have been inadequately considered.

And so there have been conflicting interests not only between GPs and consultants but also between consultants and the corporate body of junior medical staff even though personal relationships between consultants and their own juniors are usually cordial.

DISILLUSION

Perhaps because many of the consultants who were first appointed to regional hospitals in the NHS were of the generation who qualified during or just after the last war and many had served in the armed forces, it is not surprising that many have become overtaken by some degree of disillusionment, because they are now well into middle age or older. Nevertheless, there is no doubt that many feel disheartened because they find it increasingly difficult to maintain the high standards they pioneered.

Their record with the administrative side of the NHS has not always been happy. Many have served as chairmen of medical advisory committees and as members of hospital management committees. The time and energy expended on these committees has often appeared to have yielded little benefit. Some have agreed to participate in the newer Cogwheel-type executive committees, while others have been reluctant to do so because of previous experience and because they still fear that their freedom to take executive action will be of too limited a degree to be valuable.

Many feel that although the status of the regional consultant rose steadily in the earlier years of the NHS, largely because of the service he rendered, there is now a fear that the status of the regional consultant will be devalued—particularly in comparison with his colleagues in teaching hospitals, whose interests often conflict with his own.

UNCERTAIN FUTURE

And so the regional consultant looks forward to an uncertain future. He may accept that the status of the GPs should be raised and that everything should be done to improve the standard of general

practice by encouraging group practice in purpose-built premises and by giving GPs access to hospital facilities. He may accept that every young graduate must have the opportunity of a planned career and the expectation of having his own position established within a reasonable time of graduation. He may accept that this will mean an increase in the number of consultant appointments in the hospital service and that there will need to be some rearrangement in junior staffing arrangements.

What he cannot accept is the suggestion that as he gets older he will have to revert to undertaking the routine type of hospital work that he did as a junior himself and for which as he gets older he is both technically and physically unsuited.

It would be tragic for the NHS if the goodwill of regional consultants who have done so much to raise the standards both of practical and indeed academic medicine and surgery should be lost because their position is misunderstood.

Requirements for maintaining the standard of regional consultant services

It is difficult to summarize the requirements for maintaining and improving the standards of the regional consultant services but Mr Lloyd Williams has mentioned several important points some of which can be re-emphasized and a few others added.

DEVELOPMENT OF DISTRICT GENERAL HOSPITALS

It is essential to develop district general hospitals of adequate size. The fragmentation of many regional hospital groups into small units is wasteful and inefficient. It also makes the organization of satisfactory training programmes almost impossible. The concept that modern medical facilities cannot be brought to everybody's doorstep must be repeatedly publicized and patients educated to the notion that it is safer to go to a larger central hospital rather than stay in a smaller peripheral unit.

STAFFING REQUIREMENTS

The clinical experience offered in regional hospitals is varied and extensive and part of every trainee consultant's training should be spent in such a unit.

The acceptance of delegated responsibility is an important aspect of training but it is essential to reconcile the training requirements of the individual with the service needs of the hospital.

Before the numbers that can be accepted for training can be estimated an attempt should be made to determine the staffing establishment required for the service needs of the hospitals of the NHS—an exercise which has previously proved extremely difficult.

RELATIONSHIP BETWEEN REGIONAL HOSPITALS AND TEACHING HOSPITALS

Mr Lloyd Williams has emphasized the need to co-ordinate the activity of teaching and non-teaching hospitals.

This appears absolutely essential and nothing would restore the morale of the regional consultants more effectively than a complete integration of the teaching hospitals and district general hospitals of each region.

Junior staff and senior staff should be appointed jointly and could have rotating duties in each type of hospital, while undergraduates would routinely spend part of their training in district general hospitals where the consultant staff could have the same opportunity for recognition as university teachers as their colleagues in the parent teaching hospital.

The establishment of such relationships between the teaching hospital and the districts in a region should no longer be left to the initiative of individual consultants but should be developed as a principle of central policy.

POSTGRADUATE MEDICAL CENTRES

The influence of these centres should be extended by every possible means. They have already conferred great benefit on all associated with them and as local postgraduate committees have become established they have involved all the medical interests of a district in their organization. Many of the differences between

the different sections of the profession have been resolved by the opportunity of meeting and working together which these centres offer.

But both the original impetus which stimulated their development and the momentum which has been keeping them going have largely depended upon the enthusiasm and goodwill of regional consultants and it is essential that this be preserved.

This can be done by ensuring not only that they receive adequate financial rewards in relation to other members of the profession, but also by ensuring that their status is recognized and their efforts supported by the encouragement and interest of the administrators of the hospital services.

3

General practice in course of change

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General practice in course of change

Summary

General practice has evolved by a series of historical accidents. By the circumstances surrounding the creation of the NHS, it was preserved in Britain in 1948 in the pre-existing National Health Insurance form which had suited a previous generation. This 'encapsulation', whilst it may have prevented its decline on the scale which has occurred in the USA, has maintained the GP as the poor relation of the medical profession and created a number of problems demanding solution.

Some have advocated, in order to raise his status, that the GP should be replaced by a primary care specialist; paediatrician, internist, obstetrician, and geriatrician. Such a specialty, however, is likely to engender boredom and make this notion self-defeating. Moreover it would have an adverse effect on the quality of the hospital specialist who would have to take on some of the role of the primary doctor and so become less experienced in his true specialty. In the USA the result of this development has been a failure to provide adequate medical care to a large section of the population.

To relieve the burden of work falling today on the GP, the idea has been proposed that a nurse should be trained to carry out the initial examination of the patient. As the assessment made at this time may be

the most crucial one for the long-term welfare of the patient, it would be wiser to leave this task with the doctor and extend nursing responsibility to follow-up.

Casualty departments in large towns have often taken on much of the work proper to general practice even though their staff may not have the requisite experience. A solution suggested has been the building of health centres manned by GPs in the hospital complex. This has many disadvantages, not least of which is the problem of the elderly patient or mother with young children getting to the centre.

Another disadvantage suffered by the GP is his lack of free and equal communication with his hospital colleagues, although recently, principally because of the postgraduate centre movement, there has been some improvement. Communication by means of a formal letter of referral is far from ideal particularly when the addressee is anonymous; emergency admissions often provide evidence of a lack of understanding on both sides. Studies are in process aimed at improving the means of communication, and it is even possible that in the future the computer or computer-inspired technique may make communication and record-keeping on both sides more effective.

Group practice and health centre practice are increasing; they offer relief to the GP from a work-overload and at the same time the possibility of a 24-hour service to the patient. They encourage a certain specialization, for instance in obstetrics, but so far have not substantially changed the concept of the GP as a generalist.

The trend to group practice and better co-operation with the local authority has encouraged the emergence of a 'team' in family care, headed by the GP but with the nurse or midwife, the health visitor, the secretary or receptionist, and the social worker as full partners. The new status of the social worker is likely to upset this growing harmony in the short run but a *modus vivendi* will have eventually to emerge.

The reorganization of the NHS offers an opportunity to strike at the core of the problem, the question of whether the career of GP can offer job-satisfaction. With GPs, as with other men, much of this depends on whether they have the opportunity to win the respect and approbation of their colleagues both in hospital and the community.

The first of these involves their admission as equal members of the medical profession. The seeds for this have been sown, in recent years, with the creation of the Royal College of General Practitioners and the recognition of general practice as a special discipline in the field of medical education. At present the difficulties are the failure to regularize the apprenticeship, coupled with a lack of applicants. It has now been recognized that there must be an obligatory period of vocational training for all new entrants. The reorganization of the NHS gives GPs themselves the chance to build on these beginnings a new and better relationship with the rest of the medical profession.

Until now mutual respect amongst GPs has been blocked by their isolationalism; fear of mutual competition has made them prefer to discuss their problems with the distant consultant rather than their neighbour. Much of this derives from the independent contractor status to which the older generation has clung. Admittedly it gives the GP the freedom and flexibility to arrange his business without much regard to others and with a significant tax advantage. There are also substantial savings to the Government in the present system for without it an army of secretaries and other staff and a huge business of practice maintenance (buildings, transport, etc.) must be taken into the bureaucracy. Nevertheless many in the new generation of GPs see only gain in becoming part of a salaried service and once the pre-NHS doctors have died or retired, evolution towards such a service is likely. How far this goes may depend in the long-run on the patient who until now has been well content with a public service in the field of primary care but if the pattern is changed might increasingly opt for private practice.

Introduction

The introduction of a National Health Service in Britain in 1948 coincided with the development of the new clinical sciences. In assessing the advantages and disadvantages of the British system of medical care with comparable systems in other

countries, this aspect is often forgotten. It was not the availability of free medical care which led to the eradication of tuberculosis; it was the discovery of antituberculous drugs.

The Beveridge Report (1) spoke of a steady decline in health expenditure as a result of the early recognition and treatment of disease but the expenditure on chest diseases as a whole has not declined, even though we now spend much less, both relatively and actually, on tuberculosis than we did twenty years ago.

No one today anticipates that new discoveries will reduce the over-all need for medical care. A cure for cancer, if ever one is achieved, is more likely to add to the cost of the health service. What economies are possible can only come from more efficient management (using that word in its industrial and not its clinical sense).

In order to understand the problems which face general practice in the next decade, it is necessary to understand the historical background. Even as recently as fifty years ago a GP was able to provide his patients with almost all the medical care then available, including surgery.

The GP as we know him in Britain today has evolved by a series of historical accidents. The original GPs developed from the apothecary; from which ancestry persists the tradition of the 'bottle of medicine'.

The first attempt by the State to offer a 'free-at-the-time' health service came in 1913 with Lloyd George's National Health Insurance. This provided a GP service, including free medicines (such as were available in those days). It was available only for those workers earning less than a specified wage. It excluded their families; the three groups most likely to fall sick—children, housewives, and pensioners—were excluded from a State scheme until 1948.

Indeed, the NHI seems almost to have offered the GP services as an addendum to the insurance it set out to provide. It is as though Lloyd George had said to the workers: 'I will give you an insurance scheme, financially supported and guaranteed by the Government, so that you will not starve when you are too ill to work', and the workers had asked: 'How will we prove our entitlement, Chancellor?' To which Lloyd George replied: 'Just send me a doctor's sick note and I will see you get your money.' 'But we cannot afford to go to the doctor to collect this sick note', said

the workers. 'Then I will give you a free doctor', answered Lloyd George.

Contrary to myth, in the days before the NHS, private practice (the patient paying for each consultation with his doctor) was a luxury which could only be afforded on a regular basis by a relatively small proportion of the population. Contract practice of one kind or another (so well described in Cronin's book *The Citadel*) was the accepted pattern in industrial areas. This is why the capitation system of payment, adopted by Lloyd George for his NHI, was no stranger to most GPs and was never strongly resisted. (A limited experiment in Salford in the 1920s with an item of service payment under the NHI was a failure.)

The National Health Service Act of 1948 extended the GP cover to everyone in the country who wanted to take advantage of the service. In the event, over 90 per cent of general practice after 1948 was under the NHS. Within the NHS there had to be terms of service for the various grades of staff, including doctors. The terms for GPs were adopted, almost in their entirety, from those already in existence for NHI. General practice in 1948 was thus 'encapsulated' in the pattern which had been appropriate to a previous generation. The financial stringencies imposed upon the civil population in the Second World War, which itself followed a decade of depression, meant that general practice entered the NHS twenty-five years out of date. In planning and developing the GP side of the NHS, no recognition seems to have been paid to the changes which inevitably followed the explosion in clinical sciences. Fortunately there was an awakening among the GPs—slow at first, but steadily increasing in momentum—to the potentialities of general practice under the NHS. Collings, Taylor, and Hadfield, in their respective reports, painted the blacks, the greys, and the whites (2, 3, 4). The far-sighted vision of John Hunt and his colleagues created a College of General Practitioners to take its place beside the other academic colleges of medicine.

What's in a name?

Many attempts have been made to define the term 'general practitioner' (5, 6). None of the definitions is completely satisfactory because general practice is not the same in different countries (7).

Indeed, the role of the GP varies, even within different parts of these islands. In particular, the function—and thus the role as well as the attitude—of a rural GP is different in many vital respects from that of his urban counterpart. Some of the factors influencing these variations (both intra- and international) can easily be recognized.

1. The over-all planning of medical care in the community.
   (*a*) Who delivers primary medical care, the GP, specialist, or specialoid?
   (*b*) Who has charge of hospital beds?

2. The local availability of other forms of medical care.
   (*a*) The number of hospital beds available and the scope of the services provided are not the same in different areas.
   (*b*) The services provided by hospital casualty departments on the one hand, and night relief services on the other, create local differences in the service expected by the patient of his GP.

3. The training and experience of the individual GP.

4. The organization of the individual doctor's practice.
   (*a*) Is he single-handed or a member of a group?
   (*b*) Does he have attached health visitors, nurses, and/or midwife?
   (*c*) Does he offer prophylactic as well as therapeutic services?

5. How is the delivery of medical care financed? Which aspects are most rewarding? (Alternatively, this could be expressed as which medical services provide the physician with the best return for the outlay of his energies, such returns being measured in terms spiritual as well as financial.)

Furthermore, the name 'general practitioner' has fallen into disrepute in some quarters. Critics say, and few would disagree with them, that the day of an all-purpose physician/surgeon/accoucheur are over. Modern medicine is too complex for any one man to keep abreast of developments in every field. We are in the era of the specialist. At any one point in the medical spectrum the generalist cannot provide, they argue, as skilled a service as that offered by specialists in the same field.

In some countries the GP has declined even to the point of near extinction, or his name has been changed to that of 'family physician'. The BMA Planning Unit recently suggested that the GP in Britain should, in future, be known as the 'Primary (care) Physician' (8).

In this paper no attempt will be made to offer a new definition of general practice. The term 'general practitioner' was the correct one for the all-purpose doctor of the previous generation. Provided we understand the role of the doctor who is to deliver primary care in the 1970s, does it matter what we call him? 'General practitioner' seems to be as good—and accurate—a name as any of the alternatives proposed.

WHO SHOULD DELIVER PRIMARY MEDICAL CARE?

Can primary medical care be delivered by someone less well trained than a GP? Is ten years (undergraduate, pre-registration, and vacational training) too long a period of study for someone who is going to do this work?

The experiment has been tried (9) of having a nurse make the initial assessment, particularly in cases where the first consultation is requested in the home. This is said to save the doctor some 18 per cent of his time. The question is whether this is the best way of saving the patient's time. The nurse can recognize many of the more common medical conditions but her knowledge of differential diagnosis is very restricted. She will usually be able to assess whether there is a medical emergency and whether or not the patient is fit to attend the consulting room or whether a visit by the doctor is necessary. But whether she will be able to assess the whole of the psychiatric and social background is another question. None of her nurses' training is directed towards this function (10).

If nurses are to do some of the work at present carried out by GPs, it would be better if they did some of the follow-up house calls rather than make initial visits. Once the physician has assessed the situation, the nurse's role assumes a different function. She is trained to report progress. She can also help the doctor by seeing some of the follow-up patients in the consulting room (e.g. routine recording of blood pressure, the weighing of obese patients, and the carrying out of respiratory function tests in chronic bronchitics,

to name but a few tasks). Used in this way the nurse might well save more than 18 per cent of a doctor's time.

Should more nurses be trained to do this work? Before this question is answered, ought we not to ask ourselves whether it is logical to first train a girl to be a nurse and then teach her to be a second-class doctor?

If primary medical care is to be merely a sorting house, then the argument for having physicians' assistants seems almost unanswerable. It ought not to take too long to teach a boy or girl with two or three A-levels to know which specialist is likely to be the most appropriate for a particular symptom. At the same time he could be taught to recognize—and treat—certain specifically defined illnesses; upper respiratory infections, the childhood infectious diseases, certain skin diseases, and so on, as well as most of the minor traumata.

In areas where there is a shortage of physicians (e.g. many parts of the USA) such a system is being adopted. The former medical corpsmen in the US Army, usually with experience in the battlefields of Vietnam, are being given a two-year course of study to prepare them for work as physicians' aides. At present they have to work under the supervision of a qualified physician, usually a GP.

The future prospects in the development of such a grade of medical worker in Britain are not at present good. By and large, the British public is content with the services it gets from its family doctors (11), but if recruitment to general practice fails, the position may alter rapidly. It could also alter if the Government thought economics could be introduced into the NHS by spending less on primary care.

SHOULD PRIMARY CARE BE DELIVERED WITHIN THE HOSPITAL?

An important problem which must be faced in the next decade is the increasing use made by patients of hospital casualty departments in the delivery of primary care. In the centres of our large towns the casualty departments are coming to resemble more and more the dispensaries of a bygone era. It is not possible, within the confines of this paper, to discuss all aspects of this phenomenon. Indeed, we know very little of its causation. It cannot be due entirely to some fault inherent either in the NHS or in general

practice. A similar situation has arisen in the USA, where the receiving rooms of the hospital provide much primary care.

A hospital casualty department offers the very antithesis of continuous care. The usual medical staff in such a department have no experience of general practice. In an attempt to redress the balance, some hospitals are inviting GPs to staff their casualty departments. As a temporary expedient this may be a solution, but on a long-term basis it is unlikely to succeed.

The advantages to the GP who becomes a part-time casualty officer is that he is, once again—as he was when a junior hospital doctor—a member of the hospital team and he also has access to the minor surgery facilities in the casualty department. On the other hand, there is no reason why a GP should not use all the facilities of a hospital minor operating theatre to treat his own patients; indeed, in some parts of the country GPs already do this.

However, there are disadvantages; in particular, there is the thorny question of status. If the casualty officer is designated as a specialist then he must have had specialist training in casualty work. It is difficult to see how one man can be properly trained for two specialties: as a hospital casualty officer and as a general practitioner. On the other hand if the casualty officer is designated a junior hospital doctor, this would be an inappropriate grade to offer an experienced GP. In my opinion, it is a complete misconception of the role and function of both GP and casualty officer to equate the two. Their only resemblance is that both are doctors of first contact. The casualty officer should be mainly concerned with accident cases, including 'medical accidents' (e.g. poisoning). It should not be his responsibility to cope with 'casuals'. It should certainly not be the task of the casualty officer to act as an emergency out-patient consultation department. All too often GPs refer patients to a casualty officer for a second opinion instead of a specialist, because the delay in getting an appointment is too great. (An urgent priority for community physicians in a reorganized health service is the task of sorting out this muddle.)

From time to time there have been suggestions that at least one health centre should be built within the grounds of a district general hospital complex. If this is intended merely to provide 'pairs of hands' to man the casualty department, the argument already put forward would apply with even greater force. The GPs in their hospital-based health centre would find their routine

consultations constantly disturbed with emergencies—and many of the 'emergencies' would be less urgent than the ordinary patient in his consulting room.

In my opinion, it is illogical to expect that casualty departments should be manned by GPs, as it would be to expect the departments to be staffed with other fully trained specialists; indeed, it would be more logical (but unlikely ever to happen) to staff the casualty department with trained surgeons, paediatricians, and psychiatrists!

The suggestion that all GPs transfer their consulting-rooms to the hospital has also been put forward. The main difficulty is the problem of ease of access by the patient. The average British family does not have a car. It is, therefore, desirable to have the primary care doctor within easy access of every patient. In particular, the needs of the elderly and the mother with young children have to be remembered. (This argument can also be used to oppose the concept of large health centres.) Transport could be provided to take patients to their doctor's surgery. On an experimental basis, one or two hospital authorities have provided such a service. Nevertheless, there are other arguments against such a plan. The 'average' district general hospital of the future, catering for a local population of about a quarter of a million, will have some 100 GPs in its catchment area. Each GP sees roughly 40 or 50 patients per day (200–50 per week; but he consults on only five days). The volume of patients consulting their GP every day is not often realized by those who talk of the hospital taking over primary care. 4,000–5,000 patients presenting at one point each working day would raise considerable administrative problems with which we are not equipped to cope. The cost, too, would be enormous. Without going into the objections which would almost certainly be raised by the representatives of both the patients and the GPs, we may assume that such a scheme is highly unlikely in the next decade.

Nevertheless, the geographical fusion of GPs' surgeries and specialists' consulting-rooms, has much to commend it. The experiment is already being tried of having specialists conduct some of their out-patient sessions in health centres. Providing the volume of work is adequate, there is much to commend this idea, particularly where the distance to the hospital is great. One of the disadvantages is that there is a loss of choice of specialist; on the

other hand, the experiment has mainly been tried in rural and semi-rural areas, where there is only one or, at most, two physicians in each specialty. (The same lack of choice applies to the selection of a GP in an isolated rural area.)

The role of the general practitioner

Modern general practice is not just a sorting house. Those who still practise as if it were seem not to recognize what skills they do possess and what function they should be performing. The most important question a GP has to ask himself is not to whom to refer his patients, but should the patient be referred.

As yet, there is no agreement, either among GPs or specialists, on the criteria for referral. Obviously the knowledge and experience of the individual GP and the facilities available to him by way of open access pathology and radiology will influence the decision.

Take the example of a patient who suffers from indigestion. There are some GPs who think it best to refer all their patients who present with symptoms of dyspepsia to a specialist 'for advice on management'. Presumably they feel it is better to err on the safe side and have an 'expert' exclude the possibility of complications. On the other hand, there are many GPs who manage most of their dyspeptic patients themselves from start to finish irrespective of the presence or absence of a peptic ulcer. These doctors have weighed up in their minds all the advantages and disadvantages of referral. If the clinical situation warrants it, they will get a barium meal via an open access X-ray department, but they will not refer the patient to a specialist unless complications occur. Indeed, before requesting a barium meal, they will have asked themselves whether the possible benefit of being more certain about the diagnosis outweighs the potential hazard in some patients of 'fixing a symptom'; for there are some people who interpret the need for an X-ray as proof of the existence of a significant disease.

The chief function of the GP today is that of 'assessor' (12). The role of the GP is to assess the needs of his patients and to determine how best these can be met. The GP must decide whether he himself has the competence and facilities to cope with the problem; whether he should delegate the task to one of his 'team'; or

whether he should refer the patient to another physician (i.e. a specialist) or one of the social services not directly associated with his practice.

In accepting this role for the GP we will have the opportunity to rethink the distribution of the care of patients between hospital and community—with consequent savings in both cost and medical manpower.

We already know that there are some patients occupying hospital beds who, in the opinion of experienced GPs, ought not to be there. We also need to know how many people are attending hospital out-patients unnecessarily, both as new referrals and follow-ups.

Research into medical care and administration is almost as important as research into disease. Unless we can afford to provide the service, there is little benefit in knowing what we might have done for our patients.

CONTINUITY OF CARE

It has been said (13) that continuity of care is one of the main features of general practice in Britain. It must be admitted that in the 1970s some of this continuity of care has been lost. For example, the individual doctor–patient relationship is not always as close in a group practice as it is in a single-handed practice. Though some group practices insist that the patient sees only his own GP, most groups do permit patients, within certain limits, to shop around among the doctors within the group. Many patients seem not to mind which doctor they see—even when offered a choice. In my group we tried the experiment of compelling the patient to see his own doctor. The experiment failed. There are some patients who come to the health centre without an appointment. A number of them, finding their own doctor not immediately available, insist on seeing one of the other partners rather than make an appointment to come back when he is free, even if it means a delay of only an hour or two. In very few cases can an emergency be offered as an excuse.

There are some patients who prefer to see their own doctor every time, and there are a few who will never see anyone else; these patients would rather wait several weeks if their own doctor is on holiday. We estimate that roughly 60 per cent do not mind

which doctor they see, and another 30 per cent prefer the same doctor each time. The difference does not seem to be related to social class, but rather to the personality of the patient.

The physician himself is not free from blame in the decline of the *personal* doctor. Night relief services cover more and more GPs from 7 pm to 8 am as well as over the weekend, while those who do their own night work almost always do so on rota, so that the odds are heavily against the patient seeing his own doctor if he needs him at night.

The euphemism for this change from the pattern of 'continuous care by a personal doctor' is 'care by the group' or even 'care by the team' (14). It should be added that it does differ in certain important respects from non-continuous episodic care.

The different members of a group (though not necessarily the members of a night rota) have access to the same sets of records. In addition, the more interesting or difficult cases are discussed by members of the group who do share common knowledge of the patient and his family. Furthermore, the GP does (perhaps 'should' is a better descriptive word) bring his experience of continuous care to bear on each problem. The management by an experienced GP of any problem presented to him, relates not just to the episode but also to the social and psychological background and, even more important, the effect of any therapy upon the patient's future relationship with his family and community.

GENERALIST OR SPECIALIST

In an era of specialist medicine it is sometimes comforting to think of the transformation of the generalist primary care physician into a primary care specialist. In those countries where there are no GPs and, in particular, where the concept of continuity of care is not thought to be so important, the patient has to decide not only which doctor to consult, but also from which specialty that doctor has to come. To help him make his choice, the patient has, of course, his own knowledge and experience of previous illness episodes. He can also ask friends and neighbours. Sometimes he has a medical friend (often erroneously referred to in this context as the 'family doctor') to advise him.

In an attempt to overcome this difficulty, group practice is spreading in America. Groups of specialists work together, usually

from the same block of 'doctors' offices'. The group is almost always based on a team composed of internists, paediatricians, and gynaecologists but often the whole range of specialists is included.

The real question is: does this mode of delivery of medical care work? Does it lead to better job satisfaction? Certainly, as far as paediatrics in America is concerned it does not appear to succeed. Indeed, it would seem to provide the worst of both worlds in that American paediatricians are forced to spend too much of their time giving primary medical care. As a consequence, they tend to get bored and frustrated (15).

Fry, elaborating the point, stressed that a doctor can only become experienced in those cases he encounters (16). The population of children treated by an average American paediatrician is around 1,000 (most of whom come from families in the middle and upper income brackets). Because his population at risk is small, he will see few of the less common conditions. In no way can such primary care specialists be compared with the British type of paediatrician, whose role is that of secondary care physician. With a population at risk a hundred times greater, the British specialist has a good chance of seeing a sufficient number of the less common conditions to acquire experience in diagnosis and expertise in management.

The British paediatrician is a specialist; by training and by practice he has also become a consultant. He has been able to practice in this way because there are GPs.

Health centres, group practice, and partnerships

The term 'health centre' has acquired a strict definition. Section 21 of the National Health Service Act 1946 laid upon every health authority the duty to provide, equip, and maintain premises to be known as health centres, in which there are to be facilities for some or all of the following:

1. General medical services (i.e. GP services).
2. General dental services.
3. Pharmaceutical services.
4. Local health and welfare services, including health education.

5. Specialist and other out-patient services normally provided at hospital.

The number of health centres being built in Britain is steadily increasing. By 31 December 1970 there were 188 in England and Wales. In addition, other purpose-built or adapted premises are also being set up by group practices, usually with financial assistance from the General Practice Finance Corporation.

There have been partnerships in general practice ever since the GP evolved from the apothecary. Group practice is a relatively new concept. It has several different meanings. In North America, for example, it is usually taken to mean a group of specialists sharing facilities and premises. In such a group there may be GPs, although it is more usual for the 'doctor of first contact' to be an internist or paediatrician. In Britain the term has acquired a specific definition.

To be eligible for a group practice allowance, a group has to comprise three or more GPs working in close association from the same main surgery (they may also have branch surgeries) and sharing ancillary staff. In some group practices patients are seen by any one of the group, while in others the doctors usually see their own patients. In either case, absences are covered by other members of the group. This means that the group practice is able to offer its patients a 24-hour service while permitting the individual doctors adequate nights and weekends 'off duty' as well as time off for study leave and appropriate holidays.

In most groups in this country none of the members restrict their practices to any special category of patient but there are a few in which the GPs to a certain extent specialize; one will look after all the children; one deals with the 15–64 age-groups; a third with the over-65s, while the fourth does the obstetrics (17).

The case for maintaining the GP as a generalist within the context of the group has already been argued. Notwithstanding, for administrative convenience within the group, certain specialized functions are often taken over by one or two of the partners. Not all the doctors will do obstetrics; only one or two partners will do the well-baby assessment and immunization; and so on. At what point this partial specialization will stop is, at this time, difficult to forecast.

We, in our group, regard the 'clinics' (antenatal, geriatric, well-baby) as different from the ordinary 'surgery' consultation hours.

At the clinics we do 'specialize' in that not all the partners attend every clinic. On the other hand, during ordinary surgery hours we see any patient, irrespective of age, sex, or type of illness. We do consult with each other but this is more a case of getting support in a difficult case, rather than seeking another opinion. If we want a second opinion we usually prefer to get one from a true specialist.

Though the NHS defines the criteria for a group practice allowance, considerable variations within the organization of groups is possible. For example, members of a group need not necessarily be in partnership with each other; there are several such arrangements in this country. There is nothing in the group concept which obliges GPs to pool their practice expenses and income. In most of the large health centres there are two or more partnerships; in some centres none of the doctors is in a partnership, although they usually co-operate to form a group practice.

Whether we like it or not, the trend is towards group practice. Whether GPs will own their own premises ('group practice premises') or whether the premises will be owned by the NHS ('health centres') is immaterial. Essentially the only difference between health centres as they now are and group practice premises is the ownership. With the forthcoming unification of the three limbs of the NHS, and with the promise by the Secretary of State that the local authorities will not be in charge, the present ownership of health centres will, anyway, have to be transferred to some other authority.

Partnerships—as opposed to groups—have less in their favour than they did in former years. Partnerships developed because they offered economic advantages as well as providing a degree of mutual protection for the partners. Before 1948 partnerships were bought and sold; a share in the goodwill of a practice had a commercial value. Today this is no longer so; goodwill of an NHS practice cannot be purchased. Furthermore, such is the scarcity of young men wanting to go into practice, parity in an 'attractive' area can usually be achieved within three years, while a junior partner in an unattractive area (e.g. a mining town in northern England) may achieve parity almost at once.

Nevertheless, the problems of the 'senior partner' complex disturbs many junior doctors; as it did the older ones in their turn. 'My senior partner won't allow it' is an oft-heard complaint. When seniority is determined by length of service without reference to

experience or ability, it is no wonder the 'juniors' (not all of them so young) become frustrated. Conversely, is it all together satisfactory that junior partners should reach financial parity so soon, which means that many young GPs are at their maximum earning capacity before they are 30 years old?

The greater medical profession

The closer liaison which has taken place between GPs and the local health authority has led to the introduction of the concept of the 'team' in family health care. Family doctors have come to appreciate more and more that they can no longer remain independent of others, not only other GPs but also doctors in other branches of the profession.

Secretaries and receptionists are important members of the team. It is usually the receptionist who makes the initial contact with the patient. Her approach at this time may often affect the future co-operation of the patient with his medical adviser.

Midwives have worked with GPs for many years. The present trend is towards a completely unified national obstetric service and it may well be that in the next decade this process will be complete. The vast majority of deliveries, particularly in urban areas, are taking place in hospital under the over-all supervision of a consultant obstetrician. It would seem logical that the midwives should be under one administrative umbrella, whether they are working in the hospital or looking after the patients after discharge. Even where the midwife is doing a delivery in the patient's home, bearing in mind that in the event of complications the patient will go into hospital, it would still be better for the midwife to be under the supervision of the senior midwife at the hospital. Some change in administration must come when the local authority ceases to employ midwives.

Nurses have also worked in some practices for many years and there is a growing awareness of the help they can offer the GP in his day-to-day work. In a few practices they have been used for follow-up consultations and even, experimentally, in making the initial assessment.

Health visitors are peculiar to Britain. In the era before the NHS, most GPs felt the health visitor was working in opposition,

in that she was competing with him for patients and thus depriving him of income. Once the financial barrier was removed, the door was opened for full co-operation. Today it is national policy for local authorities to attach their health visitors to general practices and, where possible, for the health visitors to work from the GP's premises, even though her salary is paid entirely by the local authority.

There is good reason to hope that when the three limbs of the NHS are unified, the health visitors and those nurses working on the district will come under whatever committee replaces the present executive councils. This will mean that management of all the medical services available to the patient in his home comes under one 'department'. Furthermore, chief nursing officers representing the interests of district nurses, and the equivalent rank in the health visitor hierarchy, can sit alongside representatives of GPs to plan the service. At present health visitors only have direct representation at senior management level in certain boroughs. For district nurses there is also the risk they will find themselves represented on the area health board by hospital-based chief nursing officers who have little or no interest in their problems.

At present, with rare exceptions, the only effective social workers associated with general practice are the health visitors. These ladies have all had a nurse's training, which is an undoubted asset in the eyes of the doctor. The training makes her keenly aware of the accepted hierarchical structure within the greater medical profession. She accepts the doctor as a team leader. Not so other social workers. They respect the doctor for the medical skill he possesses; but that is all. In return they expect to be respected for their skill and to be taken at least as professional equals. Social workers have been tried out in general practice (18). One barrier to an extension of this service is a shortage of trained personnel. Perhaps an even bigger barrier is the fear the doctor and the social worker have of each other now that the social workers have established their independent status.

Nevertheless, we cannot put the clock back. It may well be easier to construct a *modus vivendi* between GPs and community social workers if each accepts the other as an equal. Because the concept of a leader is unacceptable, it may be better to forego the image of a team.

TRAINING

Until the Goodenough Report (19) was published twenty-seven years ago, it had always been assumed that the undergraduate medical curriculum was able to produce the 'safe general practitioner'. Nevertheless, quite a number of GPs had held house officer appointments before going into practice and a few GPs, mainly in the smaller provincial towns, having held registrar posts, did part general and part specialist practice in the days before the NHS. A compulsory preregistration year spent as a hospital house officer was introduced in 1951 and these days most new entrants to general practice spend a good deal longer in hospital (20). About 2·5 per cent of new entrants to general practice have spent a year as trainee assistant before becoming a principal. The number of ordinary assistants in general practice is steadily decreasing and the time spent as an 'assistant with a view' is today measured in months rather than years. Many young men and women are able to go straight into practice as principals because of the shortage of applicants for partnership vacancies, though executive councils usually expect applicants to have had at least one year as an assistant before they will allocate a single-handed practice vacancy.

However, it is now generally accepted that a period of specialized training is essential for *all* new entrants to general practice. The Royal College of General Practitioners, in their recommendations for vocational training, proposed a five-year postgraduate training (21). (Political considerations have led to the temporary acceptance of a three-year course.) At least one of these years must be spent as a trainee in an approved practice.

In this paper I do not propose to go further into the details of the educational and vocational training needs of the future GP. A look in depth and breadth at his role and functions will indicate the range of activities for which he must be prepared.

It has been suggested that it would be even better if GPs had an undergraduate curriculum different from that provided for practitioners in other specialties. Historically speaking, this would be putting the clock back to the days before the Medical Act of 1858. But if he is to carry out his functions as an assessor, the GP must be fully trained as a doctor. With this knowledge as a background he can then go on to study his specialty—that of a primary care physician.

COMMUNICATIONS AND RECORDS

Because the GP rarely has a place within the hospital community, communications have to be relatively formal. When he does work in the hospital, the GP almost always has to exchange his usual role for that of a member of the team in whichever hospital department he is working. The GP is thus not in a position to communicate freely with hospital colleagues as an equal among equals. He has lost one of the main advantages gained by the specialist in his hospital work—the informal day-to-day contact with professional colleagues.

Some hospitals are attempting to rectify this. Medical centres provide a common meeting ground. In a few hospitals the GPs have even been invited to become full members of the hospital common-room!

At the same time it must be added that, in spite of stories to the contrary, very few GPs had direct access to hospitals before 1948. In the smaller provincial towns there were no specialists and the hospitals were staffed by selected GPs, but this accounted for only a small proportion of GPs in the country. The rest were just as excluded before 1948 as they were after the National Health Service Act.

Communications between GP and hospital doctor tend to follow a traditional ritual which lacks the spontaneity of intra-hospital doctor communications. In days gone by a referral consultation for a private patient took place with both the GP and the specialist being present. Patients seen in the hospital out-patient department were, in the main, charity cases. It was unlikely that they had a regular GP because they could not afford to pay his fees.

Today the letter of referral is the accepted means of establishing the consultation. Its contents vary. At one extreme there are still the purely mechanistic notes (on varying qualities of papers): 'Please see and treat' (as has been said: 'Please see because I won't'; 'Please treat because I can't'). At the other extreme a typed detailed report accompanies the patient, outlining the background of the problem and including social data.

An undesirable feature, which has crept into the referral of patients, is the anonymity of the doctor consulted. It is fully understood that a consultant may not be able to see all his out-patients (at least not while the present pattern is in existence) because of the

sheer volume of work. There are some GPs, specialists, and administrators who seem to have passively agreed among themselves that it matters not which particular doctor sees the patient as long as it is within the right specialty. In other words, a referral to 'the physician' is preferred, rather than a referral to a named consultant. It is argued that such a referral enables the appropriate clerk to organize an earlier appointment—and also to spread the load of work more equally.

Is the medical profession—both GP and specialist—as satisfied with this arrangement as it appears, and is the patient happy with the result?

Emergency admissions provide one of the best examples of lack of understanding by the two branches of the profession of each other's difficulties (22). Some GPs seem not to want to appreciate the task of the hospital and few hospital doctors understand the problems of some patients living alone in the community. (Perhaps it is worth stressing that loneliness is a relative word. A patient living with children or grandchildren can still be lonely and uncared for—medically as well as spiritually.)

Such admissions raise problems of their own in communication. It is the exception for the admissions officer to be a permanent member of the hospital staff, though in some hospitals a lay member of the staff, who is fairly permanent, has the task, and in rare hospitals there is (by day at least) a senior medical officer in charge of admissions. When admissions are determined by the casualty officer or the house surgeon on duty, it is unlikely that he would even know the GP requesting the admission (except in a negative way in hospitals which keep a 'blacklist' of certain GPs) or be experienced enough to recognize the indications for admission.

The introduction of pre-registration systems in hospital outpatient departments led to the provision of referral letter-cards for use by GPs. Such cards have space on them for the doctor or the patient to supply enough details for pre-registration to be completed by the clerk before the patient arrives at a clinic. The limited space for clinical data, coupled with the notoriously bad writing of most GPs, encourages a uniformly poor standard of referral data. Whether hospital consultants suffer as a result is for them to say. It ought not to be beyond the bounds of the inventiveness of an administrator to design a referral envelope which will enable the

clerks to complete their pre-registration whilst still enabling the GP to write (or better still have typed) an adequate letter.

To the GP, even more important is the reply received, over which he has little or no control. The value or otherwise of these replies warrants study. There are several criticisms. Firstly, the report from the hospital doctor is usually slow in coming. It is rare to get a report in under three days and a delay of three weeks is not unusual. It is common practice for consultants to dictate letters at the end of one out-patient session and to sign them when next at the clinic seven days later. Secondly, a follow-up appointment is often not accompanied by a follow-up report to the GP. Treatment is arranged without the GP being aware of the change; yet it is the GP who has to take the initial action if and when complications occur. (It is only fair to add that we in general practice are even more blameworthy in this respect. We hardly ever notify the hospital doctor of changes we make in therapy. A follow-up letter from the GP after the initial referral is a very rare document.)

Next, we should consider the value or otherwise of the reports the GPs do receive. For example, is it necessary to repeat the history which ought to be known by the GP? How much of the detailed pathology is wanted and in what form should it be presented?

It is worth taking a look at the forms on which the reports are sent. GPs in the NHS must, at present, keep their medical records in envelopes size 8 in. × 5 in. Rarely, if ever, do hospital reports fit these envelopes without being folded many times. On the other hand, some change is long overdue in the size and design of the NHS record card. In theory, its use by GPs is obligatory. It may have been appropriate to the sort of records kept when the design was introduced in 1920. The envelope and record card measure 8 in. × 5 in. Such a size is appropriate, as Donald Crombie has pointed out, for only those whose minds are also 8 in. × 5 in. in size.

Nevertheless, the awkward size of the record card must not be used as an excuse for the fact that record-keeping in general practice is sometimes conspicuous by its absence. Those of us who do keep records tend to keep them in such a form that the information is of little value to future holders of the record card, so cancelling out much of that asset of the British NHS—the

transfer of the patient's records from one GP to another when he moves.

A by-product of computer technology is the advance in knowledge of how to rationalize the records we keep. (Before it can be fed into a computer, information must be broken down into its components.) The work of Weed (23) and others will, many of us hope, lead in the not-too-distant future, to the development of a *simpler* yet comprehensive record-keeping system suitable for use in the primary medical care situation where the problems are so often presented by the patient in an undifferentiated form. The keeping of *usable* medical records benefits both doctor and patient. The records also help in operational research, the results of which, in turn, may further benefit the practice of medicine.

JOB SATISFACTION

GPs are essentially vociferous. Those who choose to enter general practice are in the main men and women with independent minds. It is doubtful if any system of medical care could be devised which would be entirely satisfactory to all doctors working within it.

Professional men show one supreme desire in common: to be recognized by their fellows. GPs share with solicitors a lack of means whereby such recognition can be easily earned. A consultant in hospital, on the other hand, has his work observed and checked by his juniors. He will also have fellow consultants criticizing his 'performance'. GPs rarely get this opportunity. To be sure, part of their work is seen and criticized by hospital specialists, but that is not the same thing.

One factor which kept the GP in isolation was the fear of competition from fellow GPs. Most GPs rarely take the opportunity of observing other GPs at work. When they go for refresher courses they appear to prefer to be lectured at by specialists who may have little understanding of the application of their specialty to general practice, rather than hear lectures from other GPs.

This attitude is changing. Younger GPs who trained and graduated after the NHS began, and who have no memories of the lost glories of private practice, are often very keen to see colleagues at work. In many parts of the country today, groups of GPs are organizing such meetings among themselves. (It has been said that

the older generation of GP spends most of his time looking over his shoulder at memories of the bygone era of pre-NHS practice. The trouble is that, in looking back, they catch sight of the chip on their shoulder and rarely focus beyond it.)

The unification of the health service in the 1970s will open the door to the possibility of establishing the GP (perhaps for the first time) as a full and equal member of the specialist ranks within the medical profession. The specialty of general practice is not such a misnomer as appears at first sight. There is a core of knowledge peculiar to general practice, which can be taught to others. With this new-found teaching of the 'general practice of medicine' has come to the GP a new interest in his day-to-day work, and a pride in what he is doing.

The seeds of the future status of the GP have already been sown. The growth of these seeds depends largely on how the GPs cultivate them. We cannot ask others to acknowledge our skills unless we acknowledge them ourselves.

INDEPENDENT CONTRACTOR STATUS

GPs differ from other doctors in the NHS in that they have the status of independent contractors. The NHS in 1948, as has already been pointed out, merely adopted the existing pattern of practice. There were no salaried GPs under NHI. A GP was paid a capitation fee for every NHI patient on his list and this was the method adopted by the NHS.

Teaching and other voluntary hospital specialists worked in their hospitals in an honorary capacity. There were, however, many salaried specialists working in local authority hospitals before 1948. Indeed, if all hospital doctors are included in the reckoning, the majority of specialists (and this does not include junior hospital doctors) were salaried before the NHS. Not surprisingly the NHS adopted the salaried system for all hospital specialists (permitting those who wished, to work part-time within the service and thus maintain their private practices).

GPs have persistently demanded that they retain their 'privileged' status. Aneurin Bevan only got them to join the NHS by promising (in an amending Act) that they would not, except by special Act of Parliament, become salaried. Twenty years later one of his successors, Richard Crossman, wrote into his Green Paper

on the future of the NHS the promise that GPs would remain independent contractors (24).

Nevertheless, there are advantages in the independent contractor status, not only to the independent contractors but also to the administrators. Unlike his hospital colleagues, the GP does not have to present to a committee, estimates for repairs and redecorations to his premises, or for the purchase of new equipment—though he has to consult his bank manager! His surgery hours have to be approved by the Executive Council though, provided adequate cover is supplied, this is merely a formality. Replacement of partners is also mainly a formality (assuming he can find a new partner). Adding a new member to his practice does, however, have to be approved by the Medical Practices Committee, who keep a constant watch on the patient:doctor ratio in each area.

But perhaps the main advantage to the practitioner is the benefit of being taxed under Schedule D.

Nevertheless, the freedom to conduct his practice exactly as he wishes is as much apparent as real. To remain in contract and to be eligible for the full payments to which he is entitled from the NHS, the GP must conform to certain restrictions. There are limits to the number of ancillary staff for whom he can claim salary reimbursements, and there are certain controls placed upon their working hours, though the choice of personnel is entirely his (except in certain health centres where staff are employed by the local authority).

His terms of service place upon the GP responsibility for 24-hour cover (25). Such terms of service are, however, not unreasonable in the case of an independent contractor (25) but would be impossible in the case of a salaried doctor. A GP is still responsible for his patients and, incidentally, for any emergency to a non-patient living in his practice area when he is on holiday and even when he himself is ill. A GP in a hospital intensive care unit after a coronary, or paralysed with a stroke, is still responsible for his patients. The Executive Council does not have to organize holiday rotas or arrange locums. The Clerk to the Council may, and frequently does, assist in arranging cover—particularly in the case of a sick single-handed practitioner—but this is not essential. Nor is it the responsibility of the Executive Council to provide premises.

The reimbursement of the GP's rent and the major part of the salaries of their ancillary help; the attachment—free of charge—of

local authority nurses, health visitors, midwives, and even social workers; the development of health centres and group practices, are all seen as logical stages in the development of general practice in the latter part of the 1960s. It is thus equally logical to see the extension of this concept to a salaried service once sufficient GPs are so housed.

Such a change will almost certainly not develop by revolution. Rather will it come by evolution—most probably it will stem from demands made by the GPs themselves. The new entrants to general practice, men and women still in their 30s and even younger, take for granted all the recent developments in general practice. The younger doctors want to work in a group and to practice from purpose-built premises. It is almost impossible in London today to fill a single-handed practice vacancy with a graduate of a British medical school, and the situation is no different in many other parts of the country.

The average working life of a GP is some forty years. He graduates at 22, enters practice at 25, and retires at 65. By the late 1970s three-quarters of the GPs in practice will be those who qualified after the NHS began. If the present trend continues we may expect to see, before this decade ends, a salaried GP service, at least for some GPs. How it will be organized is open to speculation. Assuming that vocational training for general practice, and unification of the three limbs of the NHS will become established facts, it is not unreasonable to guess that GPs might well go on to an identical salary scale with other specialists.

The salaries of all NHS specialists are on the same scale; the dermatologist and the anaesthetist are paid the same as the neurologist and the thoracic surgeon. (Only the relative distribution of merit awards is different.) The placing of the GP on the same scale might create some problems, but it would solve others. Most of the objections would disappear if vocational training became obligatory.

A salaried GP service capable of providing 24-hour cover would have to be based on large group practices to enable holiday and sick absences to be covered. This concept has a lot to commend it, especially in urban areas. (The medical care of sparse populations in rural areas would have to be organized differently.) It does, however, mean there would have to be a lot of new buildings or the adaptation of existing premises. Furthermore, the change-over to

group practices would also mean that there would be a lot less distribution points for the delivery of medical care.

Always a difficult factor to assess is the doctor:patient relationship. Does the independent contractor GP offer a more personal service than the salaried hospital doctor? If he does, is it because he is an independent contractor or because he is a GP? It is said that what leads most of those patients who consult a specialist privately is their desire for personal service and this, they believe, is absent from the NHS. (It is interesting to note that most patients who see a specialist privately are the NHS patients of their GP; which suggests they do get the service they require from the independent contractor.)

Notwithstanding the criticisms, many of which are based on anecdotal reports of a few disgruntled patients, it is sometimes possible to retain the personal factor within a salaried service; it all depends on the attitude of the physician and attitudes are as much teachable as inherent.

How much the existence of a salaried GP service would encourage more patients to go privately is not certain. Experience in other countries where GPs are salaried (e.g. Israel and most eastern European countries) indicates that quite a number would. Does this lead to two levels of practice? The advocates of private practice imply it does. But whether the state-financed general practice in those countries referred to is inferior to the private sector is, on objective evidence, debatable.

The function of the Executive Councils will, of course, alter radically if the doctors are salaried. The administrative staff will have to descend into the arena of day-to-day practice affairs as do their hospital brethren. No longer will they be able to view the doctors and their practices from the lofty pinnacles they try at present to occupy.

At present the Inner London Executive Council (the largest in the country) is responsible for some 1,500 doctors. No hospital secretary has anything like that number of medically qualified staff to administer. Perhaps the larger health centres will have to have their own administration.

The employment of ancillary staff will be transferred from the individual doctors and groups to the Executive Council and the salaried doctors will also off-load responsibility for the maintenance of their premises. If they are to continue to be responsible for

making home calls they may well expect to have provided a car with a chauffeur (as are the mental health officers who make domiciliary visits). Certainly in urban areas where there are parking difficulties, the case for a chauffer is unanswerable (unless the doctor himself is made responsible for the salary!). Furthermore, they will expect to have more clearly defined limits to their responsibilities, especially for out-of-hours emergencies.

When the Department of Health and the Treasury come to price all this, perhaps we will meet the situation where GPs are asking to be salaried and the government is refusing to grant the request!

We in Britain are masters of compromise. The independent contractor sub-postmaster has survived because society has need of his service; how else could the Post Office man so many postal service distribution points so economically? In the same way the independent contractor GP may well survive in order to maintain the NHS.

Conclusion

It has been said that with a delicate piece of machinery you should only give the screw a quarter turn each time; if you turn it too far at once you may damage the whole mechanism. GPs are particularly sensitive individuals who do not take kindly to any drastic change. Whatever developments do take place are likely to be influenced as much by events occurring outside general practice as by changes within.

Unless vocational training is accepted and becomes obligatory, it is unlikely that graduates of sufficient quality will enter this field. Without adequate recruitment, general practice will die. At the same time, undergraduates and recently qualified doctors in their early years after qualification must be exposed to this branch of medicine so that they can decide for themselves whether it is the specialty they wish to choose. Departments of general practice will be needed in every medical school and GPs will have to take an active part in teaching at all levels.

A method will have to be found for remunerating those doctors who carry the burden of teaching general practice and also those who undertake organized research, be it clinical or operational

research. As both of these activities are likely to occur in medical schools and health centres, the difficulties of introducing a salaried service for selected practitioners will not be great.

Developments in technology, associated with improvements in the quality of management, should lead to an improvement in record-keeping and communications, both within general practice itself and between general practice and the other specialties. This improvement in communications should further lead to an improvement in the mutual understanding of each others' problems, by the hospital and non-hospital branches of the profession.

It would be highly desirable to introduce experiments in different ways of delivering medical care. Here the new community physicians will have a large part to play.

General practice will alter. The delivery of medical care will alter. Our ability to treat different illnesses will alter; not always for the better! Notwithstanding all these changes, the wishes of the patient, the need of one human being to be helped by another, will remain.

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4

Community medicine *Quo vadis?*

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Community medicine
Quo vadis?

Summary

The practice of medicine attacks disease either by concentrating on the individual patient or attempting to modify the environment. Integration of the three branches of the NHS brings these two streams together; how successfully this is done is one criterion of the success of the reorganization of the NHS structure.

This essay looks at the second of these streams which has been called 'community medicine' by considering its objectives; how far they have been attained so far and what will be the effect of the proposed changes.

Community medicine has become a most confusing term. Essentially it is population medicine applied to groups rather than to individuals and can be defined as 'that branch of medicine which is practised in relation to populations and groups, which derives from epidemiology an awareness of the services required and which includes the development of the techniques necessary to organize the application of these services for the benefit of the population'. Community physicians are doctors who have undergone a postgraduate training in community medicine.

Part of the present confusion arises from the identification of the community physician with the

medical administrator. Though their skills overlap in areas such as epidemiology, medical sociology, and administration, they can be differentiated in other areas. This does not mean, however, that their training and careers may not overlap or interconnect. The community physician's main role will be to produce the processed information which will be the stuff of decision-making in the health services and this is a different function to that of the full-time administrator.

The operational objectives of community medicine can be defined as:

1. *The detection and control of factors in the community inimical to health.* Environmental health has been recently neglected by medicine, and the Medical Officer of Health has lost the pioneering enthusiasm of his earlier colleagues. A new effort is required and this could be based on regional units of human ecology, bringing together public health laboratory, public analyst services, community physicians, and public health inspectors. These may be especially timely when local government reorganization may gravely weaken the existing basis of medical advice on the environment.

So much has been achieved in preventing communicable disease and medical knowledge is still so deficient concerning the prevention of other disease that the current concept of preventive medicine is confused and needs rethinking. Much of what is often called prevention really falls within therapeutic practice and today the 'promotion' of health may be a less-confusing term to describe the objective in this field. The community physician should have the opportunity and responsibility for promoting health by educating the public and providing the logistics as a base from which the GP and specialist screen, diagnose, and treat.

Regional units of health education should be established whilst at area level the community medicine team should be accountable both for research and development and for servicing the fieldworkers. This effort should extend to health education in the schools.

2. *The ascertainment of the need for health services.* An outstanding failure of the NHS has been the lack of a planning mechanism for defining need. New machinery is required both at national, regional, and

area level. Immediate action can be taken by testing out the possible contribution of the Medical Officer of Health within the 'Cogwheel' system in the analysis or survey of health problems.

3. *The improvement of community health by planned deployment of resources, by monitoring effectiveness, and by co-ordination.* The community physician should abandon the traditional part of his role as a 'Public Accuser and Adviser against unwholesome influences'. He must also be the bridge across the developing gap with the social service departments.

He should work towards the definition of health care objectives, probably within the 'Cogwheel' divisions, and towards the evaluation of results. He should work towards better co-ordination of the services, for instance by attaching staff to work with hospital consultants in health education, child guidance, and after-care.

The community physician will be deployed at all levels. At regional and area levels there is likely to be a group of chief officers, responsible amongst other things for the production of long-term action plans. These will include the 'Cogwheel' chairman, the chief nursing officer, and the chief community physician, who will be neither a medical administrator nor a medical adviser but a specialist in his own function.

There must be strategy for change. Clear decisions on outstanding issues are required. Local authorities should be asked to co-operate in planning the new system. There must be intensive retraining and legislation to introduce a staff commission to protect and assist staff. Before the reorganization, staff should be involved in experiments so that they begin to enjoy the satisfaction of participating in a confidently led reorganization.

Chief executive officers, appointed from one of the various heads of department, are now required. Accountability must be introduced but in the health services this must be corporate accountability. Finally, concentration on problems will be less productive than the development of growth points.

The practice of medicine attacks disease in broadly two ways. The first is direct, and concentrates on the individual

patient; its successes are immediately obvious and have led to the high esteem in which medicine is held. The second is indirect, and looks beyond the patient into the community in which he lives; its triumphs are more drawn out and are best seen in a historical perspective. Yet in the long term, it is the community approach which offers most to the improvement of health.

Both can be used with considerable effect in relative isolation from each other—and this, to a large extent, reflects our present arrangement. But as the problems facing medicine become more complex, the interrelationships between the individual and his environment become of greater importance, and these two approaches of medicine need to come closer together. 'Public health needs clinical medicine—clinical medicine needs a community' (1).

The integration of the three branches of the NHS will bring personal and community medicine together, virtually for the first time this century. The success of the changes in organizational structure should be judged by the way it facilitates and improves the joint efforts of these two streams of medicine.

This paper looks at one of them, community medicine, in the light of reorganization. It will try to assess the need for and possible impact of change, by considering the objectives, how these are being met and with what success, and how the proposed changes could influence the position.

Community medicine: a definition required

It is not surprising that considerable confusion has arisen around the terms 'community medicine' and 'community physician'. When first used in his 1959 Report by Sir John Charles (2), the phrase 'community physician' was clearly a new name for the Medical Officer of Health. As such, it is understandable and acceptable, especially as the integration of health services outside local government will mean that a new name will be required, reflecting the break from some aspects of the past. To be described as 'physician to the community' seems appropriate for the group of doctors who will practice 'population medicine', who will interpret clinical need in terms of facilities and services required to support therapy, who will be free from the pressures

of demand so as to pursue the promotion of health, who will be able in this way to take the initiative in health, and not just await the onslaught of disease.

But since then, there has been increasing use of the terms with either no real attempt to define what is meant by them or with an obviously vague and confused meaning. They have been used to cover all medical practice outside hospital, and at least one academic 'department of community medicine' includes general practice. In the 'Cogwheel' report (3) also, community medicine is used to refer to the division composed of GPs.

There have been suggestions that community physicians and medical administrators are the same people; the second Green Paper (4) outlines the work of the community physician and includes the duties of the chief administrative medical officer of the new health authorities:

> Most of the present work of the Medical Officer of Health will be included in the wider functions of the chief administrative medical officer. The chief administrative medical officer, in his capacity as chief 'community physician' will also work with the local authority on public health and other services where medical advice is needed.

In the *Consultative Document* (5) the only reference to community physicians concerns their role along with others as advisers to local authorities.

To add to the confusion comes the suggestion (6) that there could well be a proliferation of new specialisms all with the 'community' label—community psychiatrist, community paediatrician, community generalist, and community epidemiologist. Indeed, one of these descriptions, the community paediatrician, has already come into quite general use, but without general agreement as to his function (7, 8, 9). The 'community' label seems to be used to indicate the absence of a responsibility for beds, or that the main sphere of operation is in the community, or that there is an element of management of services in the job described. There is undoubtedly an increasing interest in most specialisms in the aftercare and support facilities required by their patients. McKeown (10) puts it well: 'Since most serious diseases and disabilities are likely to prove relatively intractable if they cannot be prevented, the role of therapeutic medicine should be modified to include as the major commitment the concept of care.'

This wider concern applies to all paediatricians, psychiatrists, and geriatric physicians and the 'community' label is superfluous.

The Royal Commission on Medical Education (11) (with what the *British Medical Journal* describes (12) as 'obvious difficulty') defined community medicine as 'the specialty practised by epidemiologists and by administrators of medical services e.g. medical officers of local authorities, central health or other government departments, hospital boards or industry and by the staffs of corresponding academic departments'.

There are other terms which are sometimes used almost synonymously with community medicine: social medicine, preventive medicine, epidemiology, and public health.

But the underlying characteristic which distinguishes this branch of medicine from others and which unifies the subspecialisms mentioned above is that *community medicine is essentially population medicine*, and applies itself to groups of people rather than to individuals.

I would therefore define *community medicine* as follows: that branch of medicine which is practised in relation to populations and groups, which derives from epidemiology an awareness of the services required and which includes the development of the techniques necessary to organize the application of these services for the benefit of the population.

Community physicians are those doctors who have undergone a postgraduate training in community medicine. As in other specialities, community physicians will have the opportunity to develop further their skills in any of the subspecialisms open to them such as epidemiology, organization of medical care, or research.

Even more than in other branches of medicine, community physicians will frequently find themselves working in a team situation with non-medical specialists and others. There is especially a great need for community physicians to work closely with social scientists, statisticians, and with operational research staff.

If this definition is acceptable, it is still necessary to consider further the most crucial part of the current confusion which is the suggestion that the community physician and the medical administrator are the same person. This confusion I believe arises from the very definite overlap in the skills required in the two

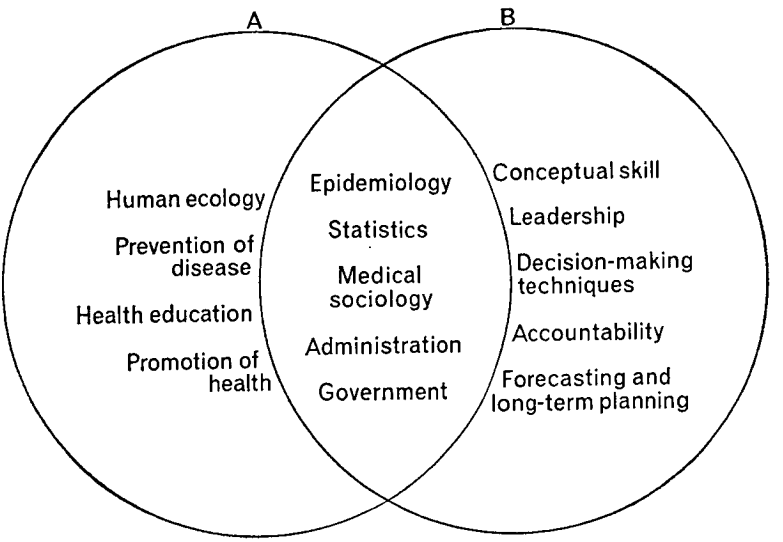

FIGURE 4.1

posts: it can be clarified by a reference to the mathematics of sets and their intersections (see Fig. 4.1).

The community physician, in practising medicine in relation to populations, will require a set of skills which include knowledge of epidemiology, statistics, medical sociology, measurement in medicine, and administration and government. Yet these are identical to those which, according to an authoritative statement (13) are required by the medical administrator. Here is the considerable intersection between the two sets, which is large enough to suggest a common postgraduate qualification and even a joint career or at least overlapping career structures.

That we are considering *two* sets, however, is clear when we look at the further components on each side. The community physician will use his basic postgraduate training to develop skills in the fields of prevention of disease and promotion of health; he would be a consultant member of the community team with the wide range of duties outlined later in this paper.

The administrative medical officer, on the other hand, would require much more knowledge in the science of management, and would need to have certain additional skills in leadership, decision-making, and in forecasting and long-term planning. He would

especially need the conceptual skill required in someone able to look ahead to where health services may be in the future.

Because of the skills required, the first supply and perhaps the largest continuing supply of medical administrators will come from the community physicians. But there must be career structures which will tempt into both fields some of the best in all branches of medical practice.

It should be accepted therefore that the community physician is basically a practitioner of population medicine. He will be involved in administration as will all doctors in the future, but purely to achieve the objectives of community medicine. His work, which will amongst other duties lead him to 'survey the general pattern of health care, both in the hospitals and in the community, and take a comprehensive view of health needs and health problems' (4), will certainly produce the analysed and annotated data which will be the very stuff of the decision-making process in the health services. This, however, must be seen as a different role to being in a full-time administrative post.

THE OBJECTIVES OF COMMUNITY MEDICINE

Unlike personal medicine, which still relies largely on demand as the stimulus for service, community medicine has become essentially outgoing and even 'aggressive' in its approach. It can now claim to take a positive although undramatic approach to the maintenance of a satisfactory environmental standard so that health threats will not develop.

It is therefore fair to say that the objectives of community medicine are no less than the prevention of disease and the promotion of the health and well-being of the community.

The operational objectives could be outlined as follows:

1. The detection and eradication or control of those factors operating in the community which are inimical to health and well-being;
2. The ascertainment of the needs for medical and related services in the community;
3. The improvement of community health,

(*a*) by the deployment of available resources to meet those needs which are in predetermined categories of priority;

(*b*) by the measurement of the effectiveness of present services and the planning of new services;

(*c*) by the co-ordination of health services.

THE PRESENT POSITION

It is a sad fact that not one of the above objectives is being satisfactorily pursued at present. As so often happens, instead of clear decisions on priorities, a little bit of everything is being attempted. However, as the standards of medical care and indeed the future health of the community are to a large extent dependent on their accomplishment, there is an urgent need to review the present position in each of them, to see what removable barriers to progress exist and to consider how integration of the health services may influence the level of achievement.

The promotion of health: an ecological approach to community medicine

It has been recognized from the days of Hippocrates that the environment in which man lives influences his health and his chances of disease (14). A simple concept of an environment divided into components such as air, water, and food, suited the straightforward ideas on the cause of disease which were emerging last century at the dawn of public health and it led to effective sanitary action.

However, with the rapid growth of knowledge especially in microbiology and epidemiology, we are now ready to move to a more sophisticated appreciation of the man/environment interaction. This ecological approach sees health as well as disease as side-effects from the constant interrelationship between *total* man and the *total* environment: 'The health status of man is the outcome of the inter-play between and integration of two ecological universes: the internal environment of man, the biosocial organism, and the external multi-environments in which he exists' (15).

The value of human ecology as a modern restatement of public health is that it forces us to think holistically, instead of our tendency to divide man and surroundings into organs and separate parts; it indicates well the multifactorial nature of disease and of health; and it encourages a new enthusiasm for environmental action in the control of disease and promotion of health.

Seen from this viewpoint, medicine has much to concern itself with environmental matters, although not by any means as the only or even predominant discipline involved. In fact, human ecology brings community medicine into a team relationship with experts in the basic and applied sciences.

Programmes of action for environmental health involve two distinct facets—health and technology. It is impracticable to bring these activities into one service but health, although involved only for a small part of the work, must have the final responsibility for the decisions concerning those aspects of the environment which could affect health.

There are new threats in the environment of which community medicine must be aware:

> Our health services must exercise ever increasing vigilance in the control over the environment and the community physician of the future will need not only the traditional public health disciplines but also new skills in epidemiology and access to a range of expert advisers in these and in new scientific methods of assessment in toxicology, microbiology, chemistry and engineering (16).

The present position is only partially satisfactory. The beneficial effects of clean-air programmes are now becoming measurable and we have a team of skilled public health inspectors who maintain a high standard of environmental hygiene. But progress is slow, and the medical role certainly has to be reviewed. The excellent work of a few epidemiologists in this country has led to a quickening of concern for atmospheric pollution. But it has failed to stimulate in the Medical Officer of Health the same pioneer enthusiasm of his earlier colleagues. Indeed it is a sad reflection of the opting out of public health doctors from this challenging field to realize that the current boom of interest and concern for pollution and its threat to the quality of life has been led by non-medical scientists.

There is an urgent need to tackle this medical neglect of environmental health. We need community physicians who will establish further data about the effects of the present-day environment on health, for example high-rise housing and new communities. If the community physician is to be able to contribute to the creating of future communities, then he must sharpen considerably and bring up to date his knowledge of the ecological aspects of disease. It may

yet be possible for us to throw off the tendency inherited from the worst days of the industrial revolution of thinking of our environment as inevitably threatening and harmful. We can then help to build the type of community in which health can flourish.

Further co-ordination of effort is also required in the monitoring of the environment. A total picture of pollution for example, or a realistic appreciation of environmental hazards requires the skills of a multidisciplinary group with whom the specialist community physician can work and from whom other community physicians can obtain advice. It would be valuable to establish for this purpose regional units of human ecology, as part of the regional services, bringing together the public health laboratory and the public analyst services alongside the community physician and a number of graduate public health inspectors.

There are two further points to be made about environmental health. First, integration of health services outside local government will loosen considerably the links between medicine and the Medical Officer of Health's present colleagues in local government. This could lead to a considerable weakening if not a complete absence of a health voice in the production of community development plans. Perhaps the growth of the regional centres for human ecology mentioned above with community physician participation will produce the research findings which will encourage the local authorities to ask for a specialist medical comment on major planning matters.

Secondly, there has so far not been nearly enough attention paid to the future situation of the public health inspector. It has been too readily accepted that he will remain with local government, but this arises from a too great emphasis on the technical aspects of his work to the detriment of the health side. There are therefore two real dangers; that the public health department that remains after the departure of the Medical Officer of Health will be split into component technical parts and distributed to other departments such as engineering or housing; and that the great value of a strong voice drawing attention to the unacceptable and the uninhabitable will be considerably softened by this dispersal of the only non-medical profession who see the environment in terms of its repercussions on health. The White Paper on local government reorganization in fact seems to advocate a split of environmental health functions between county and districts.

Serious consideration must be given to the transfer of at least part of the public health inspectorate to the area health authority. This would give true weight to the health side of their work, and would provide an alternative career structure. They could then continue with the community doctor to monitor the environment and draw the attention of local authorities to where action is required.

Preventive medicine. The pace of progress in the medical sciences is still accelerating. It is easy to underestimate over a period as short as ten years the rapidity of scientific development and its application to the practice of medicine. As the range of therapeutic options increases, there is a new confidence in medical practice which comes from the real ability to interfere with disease processes to the advantage of the patient.

In contrast to the excitement in the therapeutic field, the progress made by preventive medicine has been far less impressive as far as the growth of new ideas is concerned. The quantity of preventive work has been substantial, especially in vaccination and immunization and steady but slow progress is being made in certain environmental matters such as housing and atmospheric pollution.

But the enthusiasm which a rose in the early 1960s about mass screening for the early detection of disease has rightly been replaced by a more cautious interest in carefully controlled experimental work and a better realization of the new ethical situation created by presymptomatic investigation.

It is easy in such a situation to feel that preventive medicine is receiving too low a priority due to a low investment in research, in priority in medical education, and in prestige. But the truth is that the most preventable conditions (such as the common infectious diseases) are already being prevented, and as for the great challenge of chronic degenerative disorders of middle and later life, we are still awaiting further knowledge: 'We just have not got the basic information to devise a realistic programme to prevent arteriosclerosis and hypertension; and government is wise to resist the introduction of expensive programmes based on unproven theories' (18).

Nevertheless, the need for progress in the field application of the knowledge which we have already is urgent. Are there additional reasons for the failure to make more obvious progress?

There is, of course, the long-term nature of any results from preventive work; this is likely to lead to a fall off in interest, especially if this work is being undertaken by doctors already greatly involved in acute work and in supporting the burden of chronic sick.

There is also the absence of accountable responsibility for the prevention of non-infectious diseases. The community demands the control of smallpox or typhoid—should it now be educated enough to demand the prevention of other conditions? A diffuse responsibility for prevention, accepted by the medical profession as a whole, is not clear enough.

The present approach to prevention may be too stultifying of effort, because how many diseases can we really *prevent* anyway? It may be that a new conceptual approach may more clearly indicate what requires to be done and by whom.

I would suggest that the division of prevention into three levels of primary, secondary, and tertiary may have outlived its value. It has usefully encouraged the acceptance of the overlap between preventive and curative medicine but it has failed to stir the enthusiasm of doctors. This may be because the approach is so wide that it includes, in its secondary and tertiary parts, a large slice of therapeutic practice, thereby allowing the preventive aspects of clinical practice to compete (perhaps unfairly, because of its long-term nature) with therapy for the attention of the practitioner. We should now discard this wider use of the word 'prevention' and keep it to refer to specific actions on individuals aimed at preventing particular diseases.

For the rest of what was called primary prevention, the word 'promotion' should be used instead; to promote is to help forward, to further the progress of, and this would seem to be the appropriate word for action applied to individuals, groups, or communities to encourage in any way a healthier state than before.

To promote health in my usage of the phrase is therefore a wide-ranging concept which includes the fundamental work of community planning and development but covers also the whole range of health advisory contacts of health visitors, family doctors, and others. The claims I make for it are modest, and I make no reference here to the idea of 'positive health' which to my mind largely deserves the comment recently made by Henry Miller (18):

I will not labour my own conviction that the normal state of most people is to feel faintly tired, harassed and under the weather—and that my clinical observations lead me to believe that an abounding sensation of positive health usually presages either a cardiac infarction or incipient hypomania.

But while the immediate gains from promotional activities may be modest, there is little doubt that over a period of time, they will bring about the modification of behaviour and the changes in the environment which McKeown (10) believes will offer the best chance for further advance in man's health.

To replace the three-levels outline of prevention, a possible conceptual framework could be one based on the ecological approach to health and disease, as outlined above. There are three parts to this frame—man himself, the agent or method of contact with the environment, and the total environment, seen as an overlapping mixture of its physical, biological, and social aspects. From the viewpoint of preventive medicine, action could be aimed at each of the three parts.

The implications of this ecological approach is that the emphasis would shift from prevention to promotion, from individual to family and community, and from specific to general activities. For success, it would require the clear backing of the whole medical profession. But it would in addition need the special interest of one group of doctors, those who were best placed to involve medicine across all the disciplines and services concerned with the quality of human life.

This is not a monopolistic claim for one branch of medicine to be the specialists in prevention, for it is now well recognized that preventive and curative action merge more and more in the work of any doctor. It is simply a realistic plea that the community-orientated doctors should have the time, motivation, and responsibility for maintaining a continuing interest in the promotion of health.

The integration of the health services should have a beneficial effect on prevention, because of the synergistic results from all three branches co-operating in this field. For example, the community physician would educate the public and provide the logistics, the family doctor would undertake the screening process, and the hospital physician will complete the diagnosis and arrange any specialist treatment.

In any programme for a comprehensive health service there must be a major commitment to health education. Perhaps we should look for a change in the attitudes of doctors themselves to the importance of public education so that they can appreciate better its part in preventing ill-health and in improving the public's utilization of the health services. It is fair to say that so far only sporadic support has come from the medical profession for this greatest single under-used weapon against disease. Some of this apathy may have come from the artificial division in our services, which has encouraged the false idea that hospitals and the staff working in them have little part to play in health education. If this is so, then there will be much benefit coming from the closer links between community doctors and clinicians—the latter see the end results of disease so clearly that they should be well placed to keep the pressure on the community physician for his attempts in the field of prevention!

It is encouraging to find some evidence of greater acceptance by clinicians of health education; the strong plea for a sustained campaign against smoking made by the Royal College of Physicians (19) and the reminder in a report on gaps in medical care from the British Medical Association (20) that 'all doctors have duties as educators' are surely the signals of support which should increase the determination of the community health services to make some real and substantial progress in this area of their duties.

In the new health service, there must be regional units for health education. These will be large enough to build around a small medical component the team of experts in communication and education which the practical application of health education requires. At area level, one of the accountable responsibilities of the community medicine team must be preventive medicine which will include health education. While these two levels carry the brunt of the research and development work, they should devote most of their time to servicing the fieldworkers who can make the real impact—the family doctor and his team, the teachers, and the social workers who are so involved in day to day contact with the present and emerging communities.

The whole process will be made much more effective if it is based on locally obtained intelligence on attitudes and knowledge. In addition, the educational process could well be selectively aimed at particular groups in the community, such as voluntary

societies and the staff of chemists' shops. If the community physician really knows his community, he can ensure that the new enthusiasm for health education which I am sure is on the way will not be wasted.

One final important point has to be made. In terms of resources, of potential for return of effort, one of the best opportunities to promote health is through the educational services. The role of health education in schools is well recognized but not well co-ordinated. The involvement of adult education services has been very minimal. The possible value in terms of community betterment is so great through education that a method whereby the community physician can continue to exert some influence on the curriculum and policy of schools must be found. The present arrangements with the Medical Officer of Health also as Principal School Medical Officer should re-emerge in some way in the new service.

The ascertainment of the needs of the community

One of the outstanding failures of the NHS has been its failure to produce a managerial and social philosophy which would allow a clear appreciation of the objectives of the service but which would also encourage the measurement of performance. This shows nationally as an absence of an effective planning mechanism, remarked on as 'an unexpected finding' by a visiting group reviewing our health system (21).

This failure shows locally as well: 'After 20 years, one of the sadder disappointments of the NHS is the poverty at the local level of its learning resources' (1).

To a large extent, the medical profession must take much of the blame for not developing that questioning approach which would lead to operational and other research and to a clearer understanding of the details of medical work. A more critical approach to the services we provide would mean a greater involvement by doctors in forward planning, and this is certainly required.

There will be in an integrated service a greater opportunity to question standards of care and there are signs that the medical profession are ready to take the chance. A recent report (20) talked about the need for 'critical and systematic operational research' in the health services, and then points out: 'By comparison with the advances in medical science, there has been little progress and

perhaps some regression in the compassionate and caring aspects of the practice of medicine. . . . The national conscience—including that of many doctors—must be stirred.'

These are strong words, but the fact that they are written by doctors for doctors could mark a development of some importance. Urgently needed now are ways and means of measuring and evaluating care.

Action which would help to remedy the present gaps should be taken at three different levels. First, the establishment of an independent health services research and educational corporation (22) or a commission for evaluation (23) or a headquarters organization (24): in fact, any top-level arrangement which will ask fundamental questions and stimulate the production of replies.

Secondly, the greater involvement of all doctors in management as is advocated by the 'Cogwheel' report (3). During the interim period between now and health services reorganization, the possible contribution which could be made to 'Cogwheel' deliberations by the Medical Officer of Health should be thoroughly tested. Certainly he should be invited to submit a statistical analysis of the area as he has access to much valuable information—e.g. age, sex distribution in population, housing situation, etc., together with an account of the implications of the data for the various divisions.

Thirdly, the Medical Officer of Health should be encouraged to establish in his area a more efficient intelligence system which could begin to supply the basic information against which to evaluate how the services provided seem to be coping with the community's health problems. The first step here may have to be the acceptance of the limitations in our knowledge, as we are still very unsure of which indices we should measure.

Yet there are several areas in which a modest investment of resources could provide valuable experience. For example, it would be relatively easy to arrange for the health visitors attached to group practice to survey a random sample of the waiting-list for certain hospital procedures, thus making the list more 'alive' with the type of information which could considerably alter ideas of local priorities. There are also 'spotter' arrangements in some areas whereby the local health department is kept aware of the changing incidence of certain conditions, not limited necessarily to infectious diseases. While awaiting the development of new information systems, the community physician could make sure he is making

the fullest possible use of information he already has, such as the mortality data which analysed, for example, by occupation can raise some valuable questions worthy of further investigation.

There is one further point to be made here, and that is the lack at present of members of the various NHS bodies at regional and local level who have a broad view of the health services and who are able to think beyond the constraints of the particular branch of the service they happen to know. With separate administration and separate budgets, it is inevitable that we have parallelism in planning and a lack of cross-service experimentation. Even in planning services for new towns, care has to be taken to prevent stereotypes from the past interfering with the planning process (25).

The improvement of community health

The efficient deployment of resources. The management requirements of the reorganized health service, as seen by those with a broad albeit centralized view, are considerable. There must be 'a sensible district plan' which will require 'a knowledge of the health of the people of the district, of their need for treatment and diagnostic services, of the range of services available to them and of the necessity of maintenance of specific preventive measures' (26). In every district there needs to be a community physician 'who will promote the organization of medical care in all its curative and preventive aspects' (27). Without this, there will be 'serious impairment to the potential of all our health services at the community level created by the absence of an effective strategy and direction of all resources towards the major objective of improvement of community health' (28).

The planned use of all health resources according to local requirements is an exciting prospect of an integrated health service. But there are some real problems to be solved first, such as the proper balance between need and demand, between hospital and domiciliary, between basic services and new but unproven measures (these are dealt with in other contributions). There is the underlying problem of finance with medical technical capacity already well beyond the politically decided allocation from the national purse.

The fundamental dilemma of medical care in our country is therefore the question of decisions about priorities. A tripartite administrative system with different financial arrangements too

easily allowed this problem of priorities to be shelved. With integration comes a greater responsibility on the medical profession for these decisions. Some of the decisions, of course, impinge on basic political matters such as 'fair shares' (1), where local and public opinions will eventually insist on having the final word. But for the rest, the doctors will have to take a lead, and give to whatever area or regional committee holds the purse-strings the advice it must have.

Unfortunately, the medical profession is little prepared as yet for such a responsibility. The admirable experiments going on in different parts of the country on 'Cogwheel' lines still seem to be at their weakest and most fumbling when decisions come close to matters such as bed or staff allocation. Unfortunately, again, our health service so far has not included doctors with the time and skill to work with their clinical colleagues and collect and analyse the information necessary so that a 'sensible district plan' emerges.

For the time being, there is an urgent necessity for experimentation, especially at area and district level where the real relationship problems will arise. The community physician's eventual role in the deployment of resources may come from the specific duties already discussed, because in getting to know his community with a good intelligence system he will be well placed to conduct a general evaluation of the health services. It has to be considered carefully whether it is better for him to serve the management team with the supply and interpretation of such data, or for him to remain to some extent independent so that he retains that part of the traditional Medical Officer of Health duty to be 'impartial Public Accuser and Adviser against . . . unwholesome influences in his district'.

In my mind, there is no doubt: however important the latter role may be, the community physician must be acceptable to his medical colleagues. He must therefore regard the information he is gathering and analysing as part of his contribution to the information required by those managing the services.

There is one complicating factor which has not yet been considered, but which could create a considerable problem in the efficient deployment of resources. I refer to the legislation (29) which has established from January 1971, departments of social services to administer a wide range of services including the home helps, residential care for the disabled, mentally ill, and elderly, and all local authority social work services. It is, of course, too late to

bemoan this hasty piece of legislation, the full implications of which have not been at all appreciated by the majority of the medical profession. And it is too early to start shouting about deficiencies or barriers or communication problems. It may well be that despite the shortcomings of the Seebohm Committee report (30) which led to the new Act, there will be a considerable gain in a fresh impetus to the provision of supportive services in the community. Also, the escape of social workers from the domination of medicine may provide doctors with a young, strong profession with whom to develop a new and productive partnership.

There are also additional gains in the better appreciation of the health visitor, for example, who will remain the only profession to visit families and individuals on a regular basis and whose value in detecting the vulnerable, the 'at-risk', and those showing early signs of deviation will be greater than ever.

Two other gains may result: first, a better teamwork between doctor and nurse in the community, for example, in dealing with the mentally ill patient, and secondly the further development, alongside the community nursing service, of a 24-hour 'Personal Attendant Service' which is certainly necessary with early discharge policies.

But nevertheless, the potential for a new barrier to be erected remains, and such a barrier would make nonsense of the real effort by the community as a whole to ensure good return in services for the investment it is making. Sooner or later, the deployment of local authority social services under its new director is going to conflict with the aims of the health services, unless some workable arrangement is made to cope with the communication problems which will undoubtedly arise.

It is essential therefore that the Medical Officer of Health uses his current opportunity to the best advantage in building up advisory links between the personal social services and his medical and nursing staff, and thus with the rest of the health services. This process would be helped considerably if each district general hospital contained a department or office of the local health authority.

Despite the possible benefits and the essential need for goodwill, there remains a chance that the quality of service given to patients over the next two or three years will deteriorate, due to the very real problems in setting up these new departments. It has also to be recognized that while there is no really satisfactory demarcation

between health and welfare some division of administrative responsibility is considered to be essential.

It is essential therefore that the new health services legislation must contain a provision requiring health and local authorities to confer and prepare agreed proposals for the development of their respective services. In addition, the new regional health authorities must have a responsibility to ensure joint planning and the maintenance of co-operation.

Evaluation and planning. One of the first duties of the community medicine team should be to establish a central statistical service. Such a service would analyse the general statistical information which will describe the environment in which health services operate, in social, economic, demographic, and geographical terms. It will classify and analyse the existing health data so as to highlight the trends in demand and in work done. It will initiate special studies with the use of social survey techniques to fill in the gaps in information.

The opportunities for exciting developments in the uses of epidemiology are immense. As Morris (1) puts it, the hardware is waiting and there are plenty of examples of what has to be done—prevalence studies, new morbidity reporting, new uses of notification and of registers, etc. Epidemiology, in fact, applied locally, can provide the framework for co-ordinating services, for providing tools to management, and for improving the services.

In addition to the establishment of an intelligence system, there must be a statement of the objectives of each of the health services. This is, of course, extremely difficult to produce but the lack of such statements are now holding back the development of management information systems in medical care. The key problem according to one research fellow (31), is not the availability of data or the techniques of handling them but the absence of a sufficiently clear definition of management objectives and of the decisions which have to be taken. It would be of great value were 'Cogwheel' divisions to devote some of their meetings to drawing up a list of the targets they intend their services to achieve. These could be relatively simple, such as the number of people they hope will use a facility compared to the estimated number 'at risk', or more complex such as the standards of performance they believe will reduce mortality or morbidity by a certain amount.

Once objectives are known, then it is possible to adopt a process of evaluation, which can be defined as 'the measurement of various features of a programme and the relating of the results to previously defined standards' (32). Warren lists five major features that should be measured: coverage, outcome, professional activity, economics, and acceptability. He concludes that while total evaluation of a health service is complex and difficult, evaluation of only parts of the service can be very rewarding in clarifying objectives and improving quality.

With objectives set and an information system established, evaluation and comprehensive planning become a real possibility. Underlying all of these in the health services is the wide spread of epidemiology. It is therefore easy to see the valuable link which the community physician could have with the 'Cogwheel' divisions.

The co-ordination of health services. To an individual patient efficiency in the health services does not mean the best use of resources—it means that he receives the treatment and care his illness requires, at the time it is required! It is salutary for us to remember that this is really what the health service is all about. There has been a real danger that the succession of documents on reorganization would encourage too much concentration on top management structure, and too little on the grass-roots effects. It is indeed easy to become too resources-conscious, and insufficiently patient service-orientated; too concerned at input, and too little interested in the outcome. A doctor recently visiting another country to study the planning of medical services got the impression of 'a gargantuan volume of planning, accompanied by remarkable little effective delivery of health services'.

To improve the level of community health, therefore, the co-ordination of health services must be developed. In this regard the community physician plays an important enabling part. In his Chadwick lecture (33), Godber concluded that the future of the community physician rests upon his vital co-ordinating role; if he can reach a working alliance with a wide range of medical and non-medical colleagues, he could become 'an organizer and collaborator essential to the rest of the profession'.

With the recent increasing interest in health centres, and the trend towards attachment of local authority nurses to GPs, the Medical Officer of Health has had a very good chance to add

additional experience in his co-ordinating role which he has tried to develop since 1948. As a result, throughout most of the country, a new partnership has developed between family and public health doctors. The gulfs in co-ordination which have to be bridged are between the hospital and the health team based on the family doctor, and between health and social and other services, such as housing and education.

There are two main ways in which the community medicine team can help the co-ordination of services in the future. The first is by the attachment of medical staff to the various divisions which are particularly involved in after-care, such as paediatrics and psychiatry. These doctors, while having primary duties within the Division of Community Medicine, will undertake clinical, research, and co-ordinating duties in close working association with the appropriate hospital consultant. In this way, paediatrics will be closely linked to education and school health, psychiatry to child guidance and school and occupational provisions for the sub-normal.

The second pathway for co-ordination will be through the advisory duties between the local authority and the health services. The community physician will advise on medical aspects of social services, education, housing, and environmental health. But in addition, directors of social services should be encouraged to build strong links with the Division of Community Medicine, with membership for himself and his senior social work colleagues. This would be encouraged if the advisory link could be strengthened by joint research, joint teaching, and joint planning projects.

The duties of community physicians

It is not my aim to list in detail the duties of the community physicians. These have been indicated however in the general outline above of the objectives of community medicine.

There is one matter to be mentioned for clarification and that is the variation in responsibilities which will occur between community physicians working at the different structural levels of the new health service. My views based on what I have said above could perhaps be briefly summarized:

(*a*) *Regional health authority.* Community physicians will be in-

volved in medical administration, in units for epidemiological research and human ecology, in policy planning, in occupational health, and in teaching.

(*b*) *Area health authorities.* A community medicine team which will have a group of community physicians specializing in epidemiology and intelligence systems, assessment of the needs of the community, assistance in deployment, in evaluation, and in co-ordination; advisory work to social services and other local authority departments; preventive medicine, including policy on vaccination and immunization and health education; and the school health service. There will be a chief community physician who will be a member of the chief executive officer's planning group.

(*c*) *District level.* Community physicians will be consultants in community medicine, participating through 'Cogwheel' structure in medical advisory activities; he will have special responsibilities for the co-ordination of health services with district social worker teams and day-to-day advisory functions to district councils on housing and environmental matters.

'CORPORATE MANAGEMENT' AND THE COMMUNITY PHYSICIAN

Before the organizational structure of the new health service can be decided there must be further debate on the concept of management which is to be adopted. There is at the moment considerable uncertainty. The pertinent questions being raised by Elliott Jaques (34) about the managerial roles and relationships of doctors, nurses, and hospital administrators indicate very clearly that insufficient clear thinking has been paid to this vital aspect of running our health services. Jaques not only denies the consultants in their 'Cogwheel' structure a mangement function, but he refers equally sceptically to 'so-called medical administration'. His theme is that management involves accountability for the actions of staff being managed. If we have clinical independence of doctors, how then can one 'manage' another?

The new structure therefore should make the chairman and members of the authorities feel accountable for the main decisions which have to be made, and this greater involvement in top management must mean a lesser role for consultants and others in the service. There will therefore be the need, as the document says, for

'strong professional advisory machinery' at both area and regions.

Such an arrangement allows the development at region and area of an officer management group similar to the new approach to management being advocated for local government (35). This involves a chief executive officer who will lead a small group of chief officers who in the old system would expect to report direct to the authority. The group would consist of specialist officers, each of whom carry line responsibility for their own departments—the chief nursing officer, the treasurer, the chief engineer, the chief scientist, and the chief community physician. In addition however these officers would be expected to develop and accept a 'corporate management responsibility'. They would be joined by the chief medical adviser, who would be chairman of the 'Cogwheel' executive committee. He would be the channel for medical advice direct to the authority and would present there the consensus medical opinion of his colleagues.

The chief officer's group would produce for the authority's consideration a policy plan, a long-term document covering a period of ten or fifteen years but in broad outline only. This would be followed by an action programme which would convert long-term policy into a shorter-term commitment. To deal with more detailed work, and to produce reports on major issues, project teams could be used with cross-departmental representation. The chief executive officer would present the group's reports to the authority, although other members of the group would attend for specific items.

This approach gives co-ordination of management without interference in the particular specialist responsibilities of the individual members of the group. It would encourage co-ordination of policy ideas down through the whole service. The project teams would widen the involvement and would create valuable training and experience opportunities for the senior staff.

The problem of management has been referred to in some detail to indicate the way in which the community physician could be involved in the management process without in any way threatening his relationships with his medical colleagues. He would not be acting as a medical administrator and he would not be the chief medical adviser to the authority. He would simply be a specialist, like the treasurer, who would have limited responsibility downwards but who would accept in addition a part-share of the corporate responsibility for forward planning.

Is there a case for change?

In this essay I have looked at some of the major areas of concern for community medicine—human ecology, the needs of the community, the promotion of health, and the planned use of resources.

In each of these, there has been no lack of activity during the past twenty years. Very few if any of the local health authorities in this country could be to any extent unhappy about the progress made and the very real achievements. In fact, despite the blow to the morale of the public health medical officers in 1948, a former Minister of Health writing in 1966 drew attention to the difference between the 'deafening chorus of complaint' from the profession in the nationalized part of the health services and the attitude of medical officers of health who 'recognise deficiencies and objectives still far from being attained but recognise them as stimuli and incentives, not as material for moaning' (36).

But despite this genuine sense of some success in face of quite severe difficulties, most public health doctors would admit today to a considerable feeling of concern for the future of the services they are at present managing. Morale is low, recruitment even lower, and there is a great awareness that the modernization of approach which they have carried out and the changes they have made are not really understood or appreciated by their hospital colleagues. (In contrast, their links with family doctors have become closer and there is a growing and productive partnership developing between the two services.)

It certainly appears to me that the relative isolation of public health doctors from the mainstream is now beginning to stultify its adaptation and development. The exciting transition from Medical Officer of Health to community physician requires for its impetus a major change in the organizational structure of the health services.

There seems to be a strong case therefore from the point of view of the public health medical service for the integration of the health services. If this were done within the local government service, then all of the areas examined would benefit. We know, of course, that this is not to be, and that integration would mean divorce of community medicine from local government. If this happens, then most of the areas of concern will again benefit, but human ecology

will require careful consideration so that the long-term effects are not harmful ones. The disappearance of the medical officer of health must not lead to a silencing of the health voice in community planning. Action taken now, for example in establishing regional units for research in human ecology would ensure continuing progress in environmental health matters and would be valuable in supporting the public health inspector's department.

Another possible repercussion from integration could be the roughening of the interface between health at area health authority and personal social services still with local government. It is therefore extremely important that cross-links should be strengthened before integration between local health and other relevant local government departments so that they will survive the double organizational changes which are ahead.

One further point—while changing at the periphery, one hopes for a change also at the centre. There must be a powerhouse for the health services somewhere, to generate the spark of critical appraisal, some mechanism to create the grand design and keep it alight. If this cannot for any reason be performed by the central departments, then an independent body is urgently required. With the delegation of duties to regions, the central departments could now take on this exciting role.

THE STRATEGY FOR CHANGE

Any large organization considering a change as drastic as the one now facing the NHS would first require a full and probably independently produced report of what is wrong and how it could be put right. The health services, however, are going to be reorganized without a detailed analysis of present faults, without experimentation, and with a major structural constraint imposed because of the need to fit in with the new local government areas. Nevertheless, after so much uncertainty, there is a feeling that almost any decision would be preferable to the prolongation of doubt.

The strategy for change which should be adopted should be deliberately planned to make the most of present opportunities and to ensure the best possible initiation for the new service. In the first place, clear decisions on the important issues still outstanding should be made as soon as possible—the future links with social services and local government, for example, and the school health

service. There is little doubt that uncertainty destroys morale which destroys a service.

Secondly, the interest and co-operation of the local authorities should be invited. They are now increasingly resigned to the idea of losing their direct health role and may respond to an approach to allow their present medical and nursing staff to prepare for the day of integration. The primary concern of local government is the well-being of the community and they must be encouraged to see that their part of the health services, although facing the greatest change, is going to continue to contribute to the health of their constituents. It must be suggested to them that planned development in the interim period is necessary, rather than stagnation. They require therefore a clear statement of confidence in community medicine from the centre and an offer of participation in what could be a renaissance of the health services. They might like to be involved in some of the preparatory planning.

The new service will draw largely from staff already in post. A massive programme of retraining and reorientation should be planned and started as soon as possible. If at all possible, intensive training should be provided for those selected to manage the new service at area and regional level. The changeover would go much more smoothly if the top management teams had been fully trained in anticipation of the appointed day.

There must be set up as soon as legislation is prepared a staff commission to protect the interests of the staff and to help in their move to new posts.

There will be problems from now on and until the transitional period is past in maintaining the clinical side of the community health services. While it is likely that most of this work if not all will go eventually to GPs, it will probably continue outside general practice for some time at least. The future of the doctors in local government at present undertaking these clinical duties may need review, but local health departments could begin now to rationalize their services and link them in with the family doctors. By the time of integration, there could be no problem.

There is in fact much which could be done before the merger date. Attachment of nursing staff, health centre building programmes, and the opening of departments of community medicine at district general hospitals—these and other links could be greatly strengthened.

The most important part of the strategy for change concerns the involvement of the staff who face the future at present with uncertainty and therefore concern. They need to be stimulated and excited about the prospects and opportunities. They need to see the challenge and satisfaction which could be theirs in taking part in this major reorganization. They need to feel that all the effort and disturbance is worthwhile, to them but especially to the patient and the community. This is the time for strong confident leadership from the centre and for consultation and participation as widely as possible.

Conclusion

From a consideration of the objectives and present situation of community medicine, the case for integration of health services is very convincing. Much will depend on the emergence of the new community physician from the present Medical Officer of Health, who will have to change most but who may indeed have most to gain. Urgent consideration must be paid to retraining him and his staff for the new situation.

Another important requirement for success is the development of a mangement process adapted to the peculiar problems of running a health service. While the concept of the managing director may be difficult to envisage in such a service, the time has surely come when there will have to be chief executive officers for each area health board. He will be appointed probably from the various heads of departments, including the chief community physician.

Accountability in health services takes on a meaning greatly different to that in business management. It is essential to involve the professions in management, and we may have reached a stage in the growth of a national health service where accountability at patient level which is acceptable to the doctor becomes a wider responsibility to the community the services aim to serve. Whatever the eventual management process which is decided upon, it should encourage the participation of the professions of nursing, medicine and administration. It would appear therefore that a corporate responsibility approach will be of value and there should urgently be some experimentation to indicate the problems.

There is a real danger of wasting years in the present limbo of perpetual consultation, and this must be ruthlessly guarded against by bold leadership from the centre and ingenious co-operative ventures in the periphery. At the same time, there should be encouragement for local and national debates on the relatively small number of really important issues which should be resolved to give the integrated health service a real chance of success. For example, the part to be played by lay-members of the community insounding the voice of the consumer; the link between the services and the community; the problems of access to centralized hospitals, and the maintenance of standards in peripheral health units.

Finally, the overconcentration on the *problems* of the health services should be seen to be less productive than the detection and enthusiastic development of growth and profitable areas.

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The uses of information within the health services The challenge of technical change

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The uses of information within the health services The challenge of technical change

Summary

This essay is concerned with the uses of information within the health services with particular emphasis on three major aspects, vital and morbidity statistics, computing, and research into medical care. The general background and particular current problems of the health services are discussed and it is pointed out that many of the more acute difficulties are similar in nature to problems which have already been faced and often overcome in commerce, industry, and elsewhere during recent years. It is suggested that the first step in a systematic reappraisal of the health care system during the next decade must involve the construction of a mathematical model of its activities. Any such model would be used both to obtain a quantitative understanding of current activities and also to compare the effects of alternative management strategies. The basic requirements in terms of the collection, handling, and processing of information within the health services are considered. It is suggested that the national vital statistics systems should be remodelled to provide a more appropriate means of monitoring activities of the health services. Information about morbidity should be co-ordinated with information about mortality and the need for more comprehensive and reliable information about

ill-health is stressed. The application of computers in the health services is discussed and suggestions are made as to the lines along which the present programme might be redirected. The formation of an NHS computer laboratory, to serve as a focus for research and training in medical computing is advocated. The nature and content of research into medical care is considered and suggestions are put forward about possible directions in which progress is likely to be made. Consideration is then given to the organizational framework within which technical change is likely to have the greatest impact and to the needs of the health services in terms of staff and training. A programme for the 1970s which takes account of the various critical factors in the development of the uses of information is outlined.

Introduction

In all the developed countries there is a well-established tendency for expenditure on medical care to grow faster than the national economy. On the one hand scientific and technical advances are leading to the introduction of new, and generally more expensive, methods of diagnosis and treatment on an increasing scale. On the other, rising expectations and improved education have made the population at large less willing to tolerate inferior standards and more reluctant to accept that particular sections of the community should be excluded from access to the medical care system. This trend is likely to be particularly pronounced in countries such as the UK, which enjoy a free and universal health care system and where the rate of economic growth reflects the stability of its major institutions. Unless radical changes are made, an increasing proportion of the total national resources will be required and competition for funds will inevitably grow.

In the NHS the provision of financial support for the continuation of current activities and for new developments is not directly subject to the disciplines of consumer satisfaction. Perhaps because of this insulation from market forces, coupled with the lack of the stimulus of effective competition, the most noticeable response to rising costs has been to seek additional funds from general taxation.

However, there is now a growing realization that this process cannot be continued indefinitely and that there is a limit to the unquestioning acceptance of ever-increasing demands for support from central government. A thorough reappraisal of the existing systems for the finance and delivery of medical care, in the light of the many economic and social changes which have taken place since the NHS was established more than twenty years ago, is now required. As part of this process, a review of the uses of information at all levels within the health services must be given the highest priority.

The need to re-examine both the general structure and the detailed working of the NHS is now widely accepted; the recent Consultative Document (1) and the preceding Green Paper (2, 3) produced by the former government have provoked vigorous discussion about the organization best fitted to meet the current needs. The 'Cogwheel' report published in 1969 has outlined some solutions to fundamental problems of the organization of medical work within the hospital service (4). The increasing importance of the scientific and technical services within the hospitals was recognized by the inquiry undertaken by the committee under the chairmanship of Sir Solly Zuckermann into organization and staff (5). Although one of the scientific and technical 'specialties' considered by the Zuckermann Committee was labelled 'Statistics and Computing', the potential for growth of these and other disciplines relating to information handling and processing was not emphasized. Indeed the Committee came to no firm conclusions about this specialty and recommended that 'the Health Departments consider further the relationships of the Hospital Scientific Service to computer installations when these have been further developed'.

In the light of the changes which have already taken place in other labour-intensive activities there is now a strong case for a re-examination of the position of information handling and processing in the health service of the 1970s. The haphazard and piecemeal development of the hospital scientific and technical services generally during the previous two decades to which the Zuckermann Committee drew attention serves as a warning of the inefficiency and misuse of resources which can result from the failure to respond to technical change in an adequate and coherent way. Instead of waiting passively to see what changes evolve under the stimulus of pressures in different parts of the health services,

the many facets of the uses of information must be developed as a coherent whole. Different aspects, such as computing, research into medical care, and the collection and analysis of statistical data must be regarded as components of what is essentially a common discipline and the growth of each aspect must be co-ordinated as part of a strategy which embraces them all. At the present time, the broad outline of the problem is clear and at least the general form of a solution can be discerned. The challenge of the 1970s is to ensure that firm and purposeful progress towards the solution is initiated and maintained.

Within the DHSS, the formation of the Computer Policy Branch in 1966, which was followed by the establishment of an Advisory Committee on Medical Computing, marked the end of an era in which little account was taken of the potential applications of computing within the NHS. A series of 'experimental' computer projects is now being established and it is likely that substantial sums of money will be spent on medical computing during the first half of the 1970s. If the results of this experimental programme confirm the predictions of the computer enthusiasts, the subsequent implementation of successful applications on a more general scale may well call for a very high level of expenditure indeed. The attitude of the DHSS to research of an applied or operational nature within the health services also shows evidence of changing values and priorities. Following a long period during which very limited research funds were allocated on a strictly short-term and *ad-hoc* basis, the past two years have seen a major change in policy. Research units are now being set up with guaranteed support over a period of several years and the total resources available for this type of activity have been greatly increased. In a sense, these units are on trial at the present time, but if they prove to be useful it is very probable that further evolution in the pattern of research support will occur. An Operational Research Adviser was appointed to the Department in 1967 and an Operational Research Branch was set up in 1970 to promote the application of this discipline in all parts of the health services in conjunction with other agencies. Whilst each of these separate developments must be regarded as encouraging, much further effort is required if the NHS of the future is to be provided with the information necessary for efficient operation of a modern health care system.

The background

Before dealing with the specific impact of technical change, it is helpful to review the fundamental principles upon which the NHS is based. These principles are generally acknowledged to have stood the test of time and of comparison with health care delivery systems in other countries and may be summarized briefly as follows:

1. The financial burden of sickness should be spread over the whole community and should be borne by individuals when they are well rather than when they are sick.
2. The service should be national in the sense that the same high quality of service, but not a standardized service, should be provided in every part of the country.
3. The service should be centred on the family doctor team.
4. The doctors working in the service should have full clinical freedom.

All these objectives have not yet been achieved and within this framework there exist a wide variety of possible solutions. Indeed, many weaknesses are now generally recognized. The first and most fundamental is the growing evidence that the resources required to maintain an acceptable standard of service are unlikely to be met in full by central government. There is also some disquiet over the way in which the NHS is being developed, both in terms of the balance between different services and between different parts of the country. At the present time, it is apparent that information concerning both these major topics is inadequate to provide a satisfactory basis for decisions which cannot be deferred indefinitely. Thus, the effect of making charges for specific items of service in terms of revenue or of usage is unclear. Again, the suggestion which has been made recently (2) that the geographical disparity in the allocation of health care resources which existed when the NHS was established has become even wider during the past two decades, is extremely difficult to confirm or refute on an authoritative basis.

In order to manage the health care system into a logical and efficient manner, it is necessary to have a proper understanding of the way the system works and the component parts interact. It is

not sufficient that this understanding should exist only in general qualitative terms. A quantitative knowledge is essential if valid comparisons between alternative courses of action or different activities are to be possible. A quantitative description of a complex undertaking such as a health care system is best obtained by the development of a mathematical model. Such a model, if appropriate, may then be used to predict the effects of particular decisions and thus to enable the best strategy and tactics to be determined. The construction of a model of this kind is clearly a major undertaking and it is inevitable that the uncertainties of the disease processes in humans should be reflected in the mathematical formulation. The best that can be expected initially is the production of limited sub-models of particular areas of activity, which may subsequently be integrated to produce a representation of the over-all picture. Such sub-models must be concerned with the clinical progress of the particular patient, as well as with broader issues such as the relationship between particular parts of the health care system.

Ideally, major changes in the organization of the health services should only be made in the light of a model which embraces both the existing system and the whole range of possible alternatives. It is unfortunate that the first basic reorganization of the NHS is now being put in hand without the benefit of a comprehensive model of this kind. In the circumstances, it is to be hoped that the structure which is evolved will be sufficiently flexible to take full advantage of the developments in our knowledge of the system which may be expected in the future.

The key to the understanding, and hence to the effective management, of the health care system is the collection, summarization, and analysis of information; the demand and the need for care, the services provided and the services required, the costs and effects of providing or of failing to provide the necessary services, the resources employed and the resources available but not used and the reactions of both the consumers and the providers of the health services must all be measured, and preferably in a quantitative way. These raw data about the fundamental parameters of the situation must then be digested in terms of an adequate model and the results must be summarized and presented to the relevant persons or bodies in a form that can be readily assimilated and is appropriate to any action which may be taken. This type of process is

now the accepted goal of many of the larger industrial and commercial organizations, under the general heading of 'management information systems'. The function of such systems is to collect information from the particular field of activity and from the environment in which the activity is conducted. Current data are added to data previously collected and the resulting values of particular items and the correlations between different items are then assessed in order to provide a basis for future decisions. Thus a management information system consists essentially of 'banks' of data, the means of capturing new data and the necessary operational model and other tools to analyse and present the data as an aid to decision-taking.

In the health services environment perhaps the most important part of the information system is the set of data relating to the particular patient—identification, previous medical and environmental history, details of the current episode of illness (including symptoms and therapy), and prognosis. This is the information used by the medical attendant responsible for the care of the patient and manipulated by him as the need arises. However, even at the patient level a further data set relating to the available resources and services is also required, so that the programme of diagnosis and treatment for the particular patient may be organized in a purposeful manner. At the level of the management of resources, the variable set of data relating to all the existing demands for care must be matched against the resources available and the restrictions on their use.

At each stage in the handling of data different sets of problems present themselves. In the first place, the items of basic information must be recorded both accurately and efficiently. Ideally, any particular set of data should be recorded once only; before being assimilated into the information system, the data should be verified by the person responsible and then checked for consistency against any other related items already collected. Any query arising in this process should be resolved at the time the data are recorded, so that checkable inconsistencies are eliminated. Secondly, many items of information may be required by different people, at different times, and in different places where health care services are provided. In order to satisfy this requirement, means must be provided whereby data may be retrieved at multiple locations, possibly simultaneously. Thirdly, there is a particular requirement

for confidentiality in the field of personal medical records which must be met both by particular forms of security system, and also by the general assurance of some authoritative public body that the information recorded will be properly used. In the fourth place, there is a general need for the assessment and summary of a particular set of data, possibly in relation to predetermined criteria. This may relate to an individual medical history (and in one form covers the problem of diagnosis) or to the work of a hospital department or to the combined medical services in a particular district. Finally, there is the problem of the allocation of resources to needs, which is the kernel of many management activities.

Apart from the mechanics of information handling it is also necessary to consider the interaction of the staff of the medical services with the information system. Persons responsible for recording the data initially must be properly motivated. In the medical care environment, the use of such data as an essential component of the patient management process is likely to provide the most compelling stimulus to accuracy and completeness. Conversely, a data-recording situation which is manifestly unrelated either to the patient or to the practical use of resources is unlikely to command the enthusiasm of the staff concerned. As far as possible, the process of data capture must occur at the same time and place as the data are generated and preferably without intermediaries, so that items are dealt with whilst they are fresh in the minds of the people concerned. It is equally important that any analyses or summaries of data should be presented in a form appropriate to the users of the information. It follows that the organization and staffing should be such that the best use can be made of the opportunities presented and this may call for drastic changes in management structure and job content. This particular requirement is proving to be a major obstacle to the full exploitation of management information systems in the commercial environment. In the health services the lack of any clear definition of 'corporate' objectives and the absence of any general hierarchical structure is likely to produce even greater difficulties.

There are three main types of information about the health of the community and about the services provided. The first, and probably the most objective, is the vital statistics system based upon the registration of births and deaths. Secondly, there is information about morbidity and about items of service. Starting

with returns made by the local health authority, this system has been extended to include summary reports of the activities of particular hospitals and, more recently, data about individual hospital in-patients. In the third place, there is the specific information about individual patients and about the use of particular resources which is essential for the provision of patient care and exists in a non-uniform and unco-ordinated form in all branches of the NHS. Given these three basic and interrelated sources of data, which are discussed in the subsequent sections of this essay under the headings of 'vital statistics', 'morbidity statistics', and 'computers', there remains the problem of summarization and assimilation. This exists in various forms and constitutes the underlying task discussed in the subsequent section of the essay under the heading of 'research into medical care'.

Vital statistics

Probably, the best-known and most respected sources of information about health in England and Wales are the vital statistics produced by the Office of Population Censuses and Surveys (formerly the General Register Office) on the basis of the registration of births and deaths. In the sense that mortality corresponds to the most extreme form of ill-health, these data provide a basis for measuring the long-term effectiveness of the activities of the health services. In the UK the registration procedures have changed little in the past hundred years. The forms of presentation and summarization of the resulting data have been modified from time to time but the analyses, although very useful for broad epidemiological studies, have not so far been employed to monitor the function of particular parts of the health services on any appreciable scale. A notable exception to this remark concerns the recently introduced registration process for abortions, the results of which are clearly being taken into account in the formulation of policies and in the provision of facilities. This close link between information and action reflects to some extent the controversial nature of the subject, but is probably due in part to the fact that the form in which the basic information is collected is appropriate to the problem in hand. In contrast, the data collected in the birth and death registration processes were chosen to meet the circum-

stances of the first half of the nineteenth century and are less relevant to the current problems of ill-health. Although it was adequate when the major cause of mortality was infectious disease, the information recorded is of limited value at a time when the long-term degenerative diseases, including coronary thrombosis, chronic bronchitis, and the cancers, have taken precedence.

There are now encouraging signs of change, in the sense that experiments in certain localities involving the amplification of the existing demographic information provided by the birth registration process by more specific data of a medical nature, with the stated objective of monitoring the maternity services, may be started shortly. If these prove to be successful, the amplified procedure may be introduced on a general basis. As a result the opportunity will be presented both of identifying factors associated with population changes and with perinatal and infant mortality relevant to the present-day situation and also of monitoring one important aspect of the current health care system. The next stage in the evolution of the vital statistics system, which is equally necessary and equally overdue, must be the revision of the death registration process. As with birth registration, any such change would probably involve the collection of additional medical and other information, by way of amplifying the circumstances leading to the death of the person concerned. For example, the inclusion of a simple question about smoking habits as part of the death registration process would almost certainly throw some much-needed further light upon the effect of this habit on the health of the general population. Since standardization of content and format is essential, such data must of necessity be of a restricted nature and must avoid subjective judgements as far as possible.

Given an improvement in the nature and scope of the information collected at the birth and death registration processes, radical changes would be required in the procedures for handling and analysing the resulting information. In the first place, a case could probably be made for the analysis of the incoming data at regular and frequent intervals. Monthly analyses, to be published not more than one month after the last day of the period concerned, might be a reasonable target. In order to meet this need, the facilities available for the analysis of national vital statistics would need to be upgraded very substantially. Administrative procedures

would also need to be overhauled in order to meet the more exacting standards which such a system would demand.

At the level of the statistical analysis there will always remain a place for the straightforward (if sometimes complex) tabulations which form the basis of the presentation of vital statistics at the present time. Nevertheless, greater emphasis must surely be given to the construction of mathematical models, by which a complicated mass of data may often be reduced to a conceptually simple and easily comprehensive form. As far as possible, temporal changes should be expressed in terms of corresponding changes in the parameters of a model, which might then provide a basis for administrative action. Analyses of registration data are conventionally carried out to throw light upon demographic factors, with epidemiological studies taking a subordinate but increasingly important place. If the role of monitoring the ultimate effectiveness of the health care system is to be given a stronger emphasis, the special requirements in terms of basic data content and handling standards must also be matched by distinctive analytical requirements. This is an area which has barely been explored at the present time and much research remains to be done. The analysis of a record of medical care and possibly certain personal attributes and environmental factors in conjunction with the death certificate would call for a statistical approach far removed from the present procedures. A futher development may be envisaged, in which individual records for all members of the population, including the vast majority who do not die during any particular short period, would be taken into account. This 'whole population' approach is potentially a very much more powerful tool than the analysis of mortality data only, but must obviously be preceded by the establishment of a large, preferably national, medical data bank. For example, in the study of a particular type of disease process it would be invaluable to compare the effect of different treatments. This can only be done effectively if the survivors (as well as the patients who died) can be identified and assessed. The realization of this idea is probably many years away and, although of very great interest, will not be discussed further in this essay.

Assuming that a viable monitoring system based upon national vital statistics can be set up, the next stage is to establish an administrative structure to ensure that appropriate action is taken. The existing arrangements whereby the local authority health

departments are presented with regular analyses of certain vital statistics by the Office of Population Censuses and Surveys, represent an embryo step in the development of this type of control process. However, at the present time the difficulty of taking account of the intrinsic variation between the populations served by different local authorities, due mainly to the lack of adequate basic information, tends to reduce the effectiveness of the medical information service provided. Even if particular deficiencies can be identified with confidence, the existing tripartite structure of the NHS tends to militate against effective remedial action and a unified service would provide a more appropriate vehicle.

Morbidity statistics

The vast expenditure on the NHS is not at present matched by any corresponding wealth of information about its basic activities. Indeed, there is virtually no reliable quantitative data on a national basis about the work-load at the primary level of medical care, although the family doctor is the main point of contact with the medical services and an important determinant of the load on the secondary and tertiary care systems. The position as regards hospital casualty and out-patient activities is almost equally obscure. At the most expensive (tertiary) level of care, the Hospital In-patient Enquiry (7) represents the first systematic attempt to measure the output of hospital in-patient services, albeit on a sample basis. This method of data collection is now being supplemented by Hospital Activity Analysis (HAA) (8), by which a record is made of each hospital in-patient discharge. Now that HAA has been operative in some districts for an appreciable period, certain weaknesses are becoming apparent. These stem to some extent from a general lack of appreciation of the distinction between the nature and the scope of the information required at different levels of management. As a result of what is inevitably a compromise between conflicting interests, the value of the resulting analyses at the point at which medical care is delivered has been seriously questioned.

The specific lessons to be learned from the implementation of HAA are clear. Firstly, the responsibility for recording the basic data should rest definitely and unambiguously with a specified

member of the medical or nursing staff responsible for the care of the patient concerned, who should be properly instructed in the conventions required. Secondly, there should be some effective discipline to ensure that these basic data are collected at or about the time of discharge of the patient and are not subject to undue delay. In the third place, the presentation of the results should be specially tailored to the interests and responsibilities of the recipient. In this context, the effective implementation of the divisional structure of organization of medical departments as advocated in the 'Cogwheel' report depends very critically upon the existence of a regular flow of information upon which decisions about the management of resources may be based. In these respects the existing situation is not satisfactory and this vicious circle will only be broken by a process of education and demonstration, in order to convince the collectors of the data of the value of prompt, accurate, and complete returns. This may be an impossible task, unless the processes of recording, summary, and analysis are radically overhauled.

In contrast, the collection of data as a result of the registration of births and deaths avoids most of these shortcomings. The use of the birth and death certificates as legal documents, coupled with the existence of sanctions against non-compliance or undue delay, have resulted in a commendable completeness and punctuality which unfortunately is out of step in the facilities provided for subsequent data processing and analysis. Nevertheless, the registration process is also subject to some disadvantages. For example, even with the existence of the specially trained registration staff, the recording of apparently simple and straightforward items such as occupation causes considerable difficulties. The reliability and comparability of information about cause of death as recorded by medical practitioners with very different backgrounds and training is also open to question. There are clear limits to the value of medical and other information collected on a general basis and the need for simplification and selection cannot be emphasized too strongly.

The known difficulties of collecting reliable and timely data about hospital in-patients provide a pointer to the problems of data collection at the less highly structured levels of medical care. Nevertheless, it is essential that the collection of information about morbidity and about the corresponding activities of all the con-

stituent parts of the health services should be improved both in quality and scope. The standards applied and the conventions adopted in the handling of the data should be directly comparable in different parts of the country. Only if a reliable and regular flow of relevant information can be maintained will it be possible to compare the activities and effectiveness of particular components of the health services on a local basis. In many respects, mortality statistics are inadequate for this purpose, as death represents the terminal stage of what may be a very protracted disease process. In an ideal situation, mortality and morbidity statistics would be regarded as complementary and analysed jointly to provide a comprehensive monitoring service.

Even if a substantial improvement can be made in the quality and scope of the information collected on a routine basis about the full range of health service activities there are obvious limitations to what can be achieved in this way. For example, given a unified health service structure, it will in theory be possible for the first time to bring together information about the personal characteristics and morbidity of particular individuals; the cost of achieving an integrated patient record of this kind on a general basis would, however, be extremely high, although implementation in selected localities would be both practicable and desirable. As a general principle, any system developed for data collection should be sufficiently flexible to accommodate *ad-hoc* studies of particular topics, whilst at the same time providing an adequate background of routine information.

Computing

As to the immediate needs of the patient, the greatest potential benefits of improved information handling exist at the point of delivery of medical care. The local requirements for data collection, processing, and analysis described previously may all be satisfied, at least in theory, by 'third generation' computer systems, and it is at this level that the impact of computers is likely to be most strongly felt. Furthermore, it is only by the use of computers that the information so essential for the care of the individual patient can be made accessible and hence can contribute to the processes of understanding and management of the health care

system. In terms of data collection, the use of visual display and other types of terminal coupled directly to the computer, by the doctors, nurses, and other staff, would permit direct recording, checking, and validation of data, without the need for intermediate processes such as paper documents and punch cards. Experience in North America confirms that if a computer system is to be used as an integral part of the health care facility it is desirable to provide a means of checking all new items of information as they are recorded and of dealing with any queries as they arise, whilst the relevant events are fresh in the mind of the person responsible for recording. Delays in clearing queries which arise when data collection is carried out 'off-line' have been found to reduce very substantially the effectiveness of medical computing systems of this type. In the computer jargon, this means that data input must be in 'real-time', and that 'real-time updating' of patient records and perhaps certain other computer files is a desirable goal.

In terms of data handling, communication, and analysis, the digital computer is also in theory very well suited to the processes required, always provided that they may be defined in a satisfactory manner. Thus, a modern real-time computer system will permit data to be collected at any one of a number of terminals, to be communicated to any other terminal almost immediately afterwards, either in its original form or after condensation or some other form of analysis. Similarly, on demand at any terminal, the computer is capable of producing an analysis of any particular type of activity or of the current, past, or probable future state of any part of the health care systems about which the basic data have been collected. Confidentiality may be preserved at the superficial level more effectively with a computer system than with any existing form of manuscript record, both by the use of hardware security devices at the terminal and also by the use of programmed software. However, the use of computer-accessible data is very rightly an emotive issue at the present time and the public at large must be given adequate administrative safeguards against abuse, which can come about only by the initiative of central government. Finally, the computer is well suited to problems of allocating resources to tasks, such as the preparation of nursing orders or the programming of the flow of patients through a hospital. The potential for the application of computers in the health services has been described elsewhere (9) in a report concerned specifically with a possible

programme of development in Scotland. The authors of this report conclude that there is a clear case for the introduction of computers into the field of medical care and no further justification of this assumption will be put forward in this essay.

Against a background of vigorous development in scientific research, industry, commerce, and many other fields of human activity dating back to the early 1950s, serious interest in the use of computers in the field of medical care has come very late in the day. Taken in historical perspective, this is perhaps not surprising. The value of the numerical approach in medical research has been generally recognized only during the past two decades. The use of computers to solve research problems then led logically to the consideration of the potential applications in clinical and administrative affairs. Until very recently, however, financial resources have not been available in this country to put the various ideas which have been suggested to the practical test. As a result, the field of medical computing has been subject to what is generally accepted as a surfeit of theoretical speculation, with little hard evidence other than that gleaned from work in other countries. The practical implementation of medical computing on any considerable scale is limited to the USA, where a wide variety of projects have been undertaken. Whilst it is difficult to sum up the results of such a diverse programme, there is a general impression that, although some of the achievements have been very worthwhile, the over-all return scarcely justifies the financial investment, at least so far. This position is typical of the early stages of implementation of many new technical developments which have subsequently become highly successful and should in no sense be taken as an excuse to defer work on medical computing in this country.

In the circumstances the decision to set up a Computer Policy Branch within the DHSS was a logical, if somewhat belated, response to the challenge offered by the new technology. Since no established and generally accepted theory or practice existed at that time, the first task of the Branch was clearly to mount an experimental programme to test some of the approaches to medical computing which were being advocated. Experience of modern computing techniques within the health services being very limited, the decision was taken that the experimental programme should include several major projects, centred mainly upon research groups in the teaching hospitals and elsewhere with a proved

record in this area. Subject to the need for central co-ordination, each of the projects has been directed towards those areas of application considered by the originators to be likely to lead to the greatest benefits. Not surprisingly, in view of the diverse possibilities, in the event the various projects as originally conceived were concerned with different aspects of the problem, although there were many areas of mutual interest.

A common feature of almost all the original proposals was the desire to employ the most advanced forms of computer technology, embodied roughly in the concept of 'real-time, multi-access' computer systems. The logic of this attitude, although perhaps not stated explicitly, reflects the fact that the experimental projects will require at least five years to mount and to evaluate. The results obtained will then form the basis of a decision about whether to apply computers more widely throughout the health services. This next major step is unlikely to be taken before the mid 1970s, and the conditions of the experiments should therefore relate as closely as possible to the technical and other circumstances likely to exist in the latter part of the decade. If computer technology continues to advance as rapidly as it has in the past, an experimental programme deliberately designed to evaluate the equipment and systems current several years previous to its beginning is likely to be irrelevant, if not positively misleading.

Against this general desire for the use of advanced systems, several counter-arguments can be developed. In the first place, experience suggests that the greater the degree of technical sophistication of the computer system, the greater the difficulty of implementation. Given the almost total absence of computer expertise of the kind required within the health services at the beginning of the experimental programme, the simpler the system the less the chance of complete failure, at least on the technical level. On the other hand, it can be argued that in the health services the most serious problems are *not* likely to be centred on the computer system as such. The capture of data in an accurate and timely way and the presentation of information in a convenient form for doctors, nurses, and administrators, may pose much greater difficulties. There is no doubt that the more advanced computer systems are vastly better suited to the medical environment. It may be that the cumulative effect of form-filling, delays, and errors associated with the 'well-tried, second generation, batch

processing' computer systems recommended by some authorities will create unfavourable attitudes to medical computing which in turn will take many years to dispel. Certainly, if systems of this kind are adopted, the experienced and enthusiastic computer experts so necessary for the successful implementation of medical computing are unlikely to be attracted to work at public service salaries in an environment which to them at least will appear to be technically backward.

A further and in some quarters most compelling argument in favour of the simpler types of system is the fact that they are undoubtedly cheaper both in initial capital costs and in the staffing requirements for the computer system as such. However, the capture of data for systems of this kind tend to be highly labour-intensive, in the sense that clerks and data-coding and transcription staff are required to convert information into a suitable form for input to the computer. In addition, the effort required to detect and to correct errors and to deal with queries arising from undetected errors may well be high. In the future, data-preparation costs of this kind are likely to rise, whereas the costs of supplying and supporting terminals are likely to fall at least as rapidly. As a result, the use of arguments based upon comparisons of current relative costs of second- and third-generation computer systems may well be very misleading in the long term.

No practical evidence about the relative merits of these two approaches to computing in the medical environment is likely to become available for several years. However, having considered the theoretical arguments, the Advisory Committee on Medical Computing has recently expressed the view that the experimental programme was out of balance in its original form and that greater emphasis should be given to the introduction of well-tried data-processing techniques. This recommendation was accepted by the DHSS and the programme is now being remodelled along the recommended lines. Greater emphasis is being given to a specified list of applications, including the following:

1. Preparation and maintenance of patient records, involving administrative and brief clinical data.

2. Preparation and maintenance of records of demands for resources, including out-patient appointment and in-patient waiting-lists, transport requirements, and operating theatre bookings.

3. Allocation of resources, including reports on bed states, patient nursing dependency, operating theatre lists, service department activities, personnel records, and staff allocations.

4. Patient care, including drug administration and provision of treatments for patients.

5. Statistical activities, including summaries of demand and work done in both the clinical and administrative areas.

In this way it is hoped that a set of self-contained subsystems will be developed, which, if successful, might subsequently be integrated to provide a comprehensive information system for the hospital. This modular step-by-step approach is clearly less likely to fail completely than the alternative directed from its inception towards the target of a fully integrated system. However, much of the basic data (e.g. information about patients) must be shared by each subsystem and the outcomes of analyses of one area of activity may affect very critically some other area, so that any distinction between different areas of activity is in some senses an artificial one. In spite of this reservation, however, the note of caution reflected by the review of the experimental programme is realistic and therefore to be welcomed. The theoretical discussion and speculation about the use of computers in medicine has made such great progress that the very meagre base of practical experience has tended to become obscured. What is now required is to ensure that the various experimental projects cover a wide range, both in the nature of the applications considered and also in the sophistication of the computing techniques applied, so that when the review stage is reached the appropriate form of development for the next round of computer applications within the health services may be clearly recognized.

On the basis of experience of other computer applications, there is little doubt that, given adequate resources and reasonably capable management, a substantial part of the current experimental programme is capable of implementation. However, the success or otherwise of the experimental programme should not be judged solely in terms of whether or not computer-based methods are technically possible in the health services environment. A much more important question in the context of future developments is to determine whether the use of computers has been cost-effective. In particular, it is necessary to differentiate between the effect of

computers as such and the effect of improvements in management and approach which are likely to result from the critical study of existing systems which must precede any transfer to computer methods. In scientific studies generally the need to establish methods of assessing the success of an experiment before the experiment itself is carried out is generally recognized and the NHS programme should not be an exception to this rule. Unfortunately, the methodology required for the quantitative measurement of cost-effectiveness of medical care does not exist at the present time. The assessment of the success of the computer programme calls for a comparison of two alternative systems of care which differ only in respect of the use of computers and thus poses very severe problems at the present time. These difficulties emphasize the need to regard computing as an integral part of the NHS research activity rather than as a self-contained programme.

Research into medical care

In the UK the MRC has for many years been charged with the responsibility for basic medical research. The equally important but less glamorous area of research into medical care has not, however, been given the same degree of prominence. This is unfortunate, since the effective management of the health care system calls for a clear definition of objectives, an understanding of the means by which these objectives may be fulfilled, and a reliable methodology for assessing the costs and benefits in economic and sociological terms. In almost every respect our present knowledge about these matters is severely limited and much further research is needed before a satisfactory framework for the development of modern management can be put forward. Thus, more and better research is fundamental to the well-being of the health services and it is natural that responsibility for the inception and implementation of an appropriate programme should rest with the DHSS. The analogy with the Research and Development Department of a large science-based industry is appropriate. In the event, however, the Department has been slow to recognize its responsibilities in this respect. Over the period since the NHS was established the sums of money allocated to research are derisory in comparison with the total costs and the nature of the activities of

the NHS. During recent years, there has, however, been a growing awareness of the part that research might play in all aspects of the activities of the health service and the level of financial support has now been greatly increased. At this stage, however, the principal obstacle to progress is the shortage of research workers with the appropriate skills and there will be an inevitable delay whilst a research capability is built up, even if adequate funds continue to be made available. Before it is possible to arrive at a systematic and well-balanced research programme, a great deal of further thought and discussion is required in order to delineate the problems and to establish the priorities. In this context, it is perhaps worth pointing out that British industry as a whole is generally considered to have a poor record in the management of research and development and in bringing new ideas and processes to fruition. The factors believed to underly this inability to respond to new circumstances and situations are also present within the health services and perhaps to an even greater extent than in industry generally. Nevertheless, by comparison with the health services in countries with a better record of industrial performance than our own, the structure of the NHS in theory at least offers many practical advantages.

The first stage in the conduct of a purposeful research programme is to arrange the outstanding problems with which the service is faced in order of increasing priority. This means that a quantitative understanding of the way the service currently operates, by means of a mathematical model of all aspects of the health care system, must be given a very high priority. At the present time this modelling process has barely begun and in view of the inherent biological and organizational complexity of the situation it is inevitable that considerable intellectual effort and endeavour is required before any realistic and comprehensive model can be formulated. Given a model, the next logical step is to establish a set of criteria against which the priority appropriate to particular pieces of research may be assessed. This also is a subtle problem, which must involve the development of realistic techniques for measuring the cost and the effectiveness of particular health care procedures, as well as the more obvious economic, medical, and political considerations. Having identified the problems calling for attention, an assessment must then be made for each particular problem of the probability of producing an effective solution, given

the existing research techniques and resources and of the likely benefits of such a solution, given the existing resources for implementation. Such decisions about the relative extent to which solutions to different problems are likely to be found must always involve an element of uncertainty. Finally, in an area such as the health services, in which lip service is beginning to be paid to the potential advantages of a disciplined and scientific approach to problem solving, but where most of the organizational and operational procedures have evolved in a haphazard and unsystematic way, it is very important to establish confidence in the research methodology by well-publicized and easily recognizable examples of valuable results actually achieved by these methods. This means that a proportion at least of any well-balanced research programme must be assigned to simple and well-defined short-term projects to which a successful outcome is virtually assured and the results of which are capable of implementation without undue difficulty. In a changing situation there is a real danger that too much emphasis may be given to over-ambitious long-term projects, the results of which if eventually brought to a successful conclusion may well be overtaken by events. There are also strong arguments for concentrating research in the areas of activity which are being affected by technical change, such as computing and new forms of patient care and treatment, so that the maximum benefits may be obtained in an environment which is receptive to new ideas.

Many of the most important problems in the delivery of health care are essentially of a complex nature and in many situations the differences between alternative methods or procedures are by no means clear-cut. As an example from the field of patient care, it is not possible to be sure in the basis of laboratory work or limited clinical experience alone whether intensive care in hospital is more or less effective for the treatment of coronary attacks than care provided in the patient's own home. On the more general level of provision of maternity services, it is not clear whether the current tendency for the proportion of home confinements to decrease, with a corresponding increase in the proportion of hospital confinements and a resulting decrease in length of stay in hospital, is on balance desirable. In order to provide the satisfactory and quantitative solution to questions of this kind so necessary in the present climate of government by 'pressure group', large-scale studies on a community-wide basis are required. In some circumstances the

existing diversity of the health services provided in different parts of the country enables meaningful comparisons of alternatives to be made on the basis of observation alone. Due account must be taken of differences between and within the populations concerned and the adequate standardization of data collection in the application of an 'observational' approach of this kind is essential. International comparisons may also be very revealing, although differences in the populations served and the data collected will usually be even more important. When this is not possible, the necessary variety of circumstances must be specially created, by deliberately manipulating the conditions enjoyed by particular communities or by particular patients within a community. The difficulties, ethical, political, and financial, of this 'experimental' approach are very real. Nevertheless, in terms of the probable reduction of the influence of guesswork, unsupported theory, and good intentions upon decision-making procedures, a more general readiness to experiment on a large scale would be very desirable. The current discussions about the reorganization of the health services or about the 'Cogwheel' proposals would be so much more purposeful if some empirical evidence were available. Whilst such experiments might be expensive, the resulting savings could be many times greater.

The essence of applied research is that its results should be put into practice. It is in this particular area that the weakness of the research and development position in this country generally is to be seen. What is needed is to provide the necessary degree of motivation for the use of new procedures which have been shown to be desirable. Given a hierarchical administrative structure in which the hierarchy operates effectively, information and will, at the apex, will ensure the application of new methods at the level at which services are delivered. The situation in the NHS is in many respects a favourable one, in the sense that all finance is provided centrally. As a result, the allocation of funds might be tied directly to implementation of approved procedures and practices and in a few respects this situation applies at the present time. In general, however, once the global budgets have been settled, the apportionment of expenditure within these budgets is strictly a local responsibility. A formal mechanism is required to check whether recommended procedures are being applied and to enforce a 'code of good practice'. The coming reorganization of the health services,

in which emphasis is being given to 'a clear definition and allocation of responsibilities', offers the possibility of removing many of the present deficiencies.

The position is further complicated by the fact that the greater part of the expenditure within the health services is determined by the activities of the doctors. If the principle of clinical freedom is accepted without restriction, the only available means of implementation of successful research is by means of persuasion. If this is to be done effectively the relevant new information must be disseminated and the doctors must be provided with both the opportunity and the incentive to absorb and to apply the results. Both facilities are absent at the present time, as the slow reaction to the 'Cogwheel' report in some quarters so clearly demonstrates, although the analyses of doctors' prescribing habits and the provision of comparative information about new drugs point the way to what might be done in the future.

Organization and management

If the benefits of technical change are to be fully realized an appropriate organizational system and management structure must be evolved. There are four main problems, which may be summarized as follows:

1. The promotion of research and experiment.
2. Intelligence and evaluation.
3. Implementation.
4. Inspection.

Although each exists as a separate entity in its own right there are close interrelationships and the four components must be considered together.

RESEARCH AND EXPERIMENT

Even in the most technologically advanced industries the promotion of research is, as a scientific discipline, widely acknowledged to be in the early stages of evolution. This remark applies with evident force to the health services, in which the transition from a passive to an active role has occurred only very recently. In both

the major fields of computing and research into medical care, the universities and medical schools have provided the main base upon which the research element has been developed, although other agencies have also been employed. This approach is a tacit recognition of the fact that at the present time the universities are the only major source of skills and experience in the necessary disciplines, a reservoir which has been built up largely by the support of independent organizations such as the Nuffield Provincial Hospitals Trust. Bodies of this kind have occupied a vital position in this respect during the past decade and it is only as a result of their 'pump-priming' endeavours that the expansion of research which may be expected during the 1970s will be possible at all. Starting from the same basic position, the development of medical computing and of research into medical care generally have taken separate paths.

Computing

If the use of computers is to make any real impact upon the health care system the computer activity should form an integral part of the whole. As a corollary, it follows that any medical computer system should be firmly based within the particular part of the service which it is intended to serve. This principle has been realized within the experimental programme by vesting formal responsibility for management and control in the regional hospital boards or boards of governors concerned. It is envisaged that the projects will, after an initial period of 'development', pass by stages into a 'service' state. Funds for support during the development period are to be provided directly by central government. However, the 'service' state will be supported from the general monies available to the responsible local body. Thus whilst effective control will be maintained at the centre in the initial part of the programme, the more usual situation of 'management by proxy' which exists in so many other health service activities will prevail subsequently.

Whilst the notion that the local bodies will only be prepared to support work which clearly benefits their major activities has some merit, strong counter-arguments can be put forward. In the first place the idea that the experimental projects will at some clearly identifiable point in time change in nature entirely to 'service' activities is unrealistic and ignores the fact that developments in

computer technology and growing practical experience will present many new research problems. Almost certainly there will be a continuing and long-term research and development activity, which (unless there are particular reasons to the contrary) is likely to flourish best in the projects initially included in the programme. Not all the experimental projects need necessarily be involved in this phase and there may well be a concentration of effort. The control of projects which retain a major research element calls for a degree of understanding which is unlikely to be found at the level of the regional hospital boards or the area health boards which may replace them. On the other hand, it is likely that the bulk of any new computer activities which may be instituted when the research programme is reviewed in the mid 1970s will be applications in different localities of procedures and techniques already developed and for these local control would be appropriate.

The logic of this argument is that the main research activity should be concentrated in what might be called a 'Central Health Services Computer Laboratory', which, although run as a closely knit organization, would probably carry out research at several locations in different parts of the country and in different parts of the health services. Such a laboratory would serve as a focus for computer research and development and would be responsible for setting standards over the whole range of technical computing activities. Even at this early stage in the experimental projects the need for a reference body of this kind is becoming clear. Indeed, if a central laboratory is to be set up at all, this should be done at the earliest possible opportunity before the different approaches of the various experimental projects become too strongly established. Whilst there is obvious merit in diversity, there are even greater dangers in the dispersal of very scarce resources of staff and equipment over a wide range of problems. The present trend in computing is towards standardization, both in terms of equipment and of systems and programs, and effective standardization will be achieved most easily by firm and enlightened central control. Since the proposed central laboratory would itself be intimately involved with the practical problems of medical computing, it would be able to assume or to assist with many of the functions currently carried out by the Computer Policy Branch.

Research into medical care

In the field of applied research, the universities have been chosen as the most appropriate agencies to undertake the necessary studies. A wide variety of arrangements have been made with different universities, ranging from the establishment of large multidisciplinary research units financed largely or entirely by the DHSS, to the allocation of funds to particular research workers for specific projects. In an area where there is no conventional wisdom this empirical approach to research management has much to commend it at this stage. As experience is accumulated, it will be possible to move to a more systematic procedure involving the establishment of objectives and of a review and assessment mechanism and the opportunity should not be missed. One major question to be answered is to what extent the Department or particular local health services agencies should develop their own research capability. The developments at Northwich Park, where an epidemiological research unit financed jointly by the DHSS and the MRC has recently been established, and the formation of a Central Operational Research Unit, should throw some light on this point.

Although a substantial data-collection activity may be required, the majority of the applied research projects likely to be undertaken do not call for expensive equipment or plant additional to what is normally available for research purposes in a university. For this reason, the arguments for the concentration of research in medical computing do not apply to the same extent. On the other hand, the scarcity of staff competent to direct this type of activity provides a very real limitation to the number of separate groups which are likely to function effectively, and the costs of certain types of experimental programme may be high.

For the most part, the results of research projects will be of general application throughout the country. The shortage of experienced staff at all levels and the manifest difficulties of research management also point to the need for central guidance of the greater part of the research effort. Given a reasonably uniform geographical distribution of research units and the close co-operation with the local health services which is essential to the effective operation of such units, particular local problems, such as the commissioning of new hospitals, would naturally be dealt with by the appropriate local unit. This type of approach is to be pre-

ferred to the reference of local problems to a centrally organized research group, since local participation at all levels is likely to lead to a better appreciation of the underlying circumstances and to a greater stimulus to the implementation of successful solutions. There exists a special class of problems which involves the study of issues of general policy and organization and these are likely to be dealt with most effectively by a centrally based research group.

Although the MRC and other bodies currently support some activity in the field of health care research, the greater part of the financial resources are provided by the DHSS and current expenditure by the Department on projects and long-term grants amounts to about £2,500,000 per annum (10). In terms of research into health care or the social sciences this is a large investment, although in comparison with other research areas such as defence or high energy physics (or indeed with the total cost of the NHS) the sums involved are relatively small. Nevertheless the question is being asked as to whether the DHSS is either a competent or an appropriate body to administer research on this scale. Whilst it is never possible to answer what is virtually a rhetorical question of this kind with absolute certainty, two fundamental points must be borne in mind. In the first place, the closer the research activity is placed to the responsible policy-making body, the more likely are the problems tackled to be relevant to the immediate and long-term interests of that body and the more likely are any successful results to be implemented. Secondly, and paradoxically, experience has shown that it is unwise to expect an organization such as the DHSS, intensely preoccupied as it is with day-to-day problems, to recognize and place in proper context every single matter in which it should be taking an interest.

In the face of these apparent contradictions, a continuation of the present arrangement, whereby the DHSS accepts direct responsibility for the greater part of the research expenditure and maintains its own substantial research capability seems as likely to be successful as any of the more obvious alternatives. Within the DHSS, health care research should be more closely co-ordinated with other relevant activities and in particular with the experimental computer projects, which should at this stage be regarded as one of its more important components. Bearing in mind the recent increase of expenditure by the DHSS, the necessary external

scrutiny, which to date has fallen by default largely to independent charitable organizations, should be provided for in a more formal way. The reputation of the MRC in the field of research management is such that there is little doubt that, given the necessary additional funds, a substantial minority of research into health care should be undertaken by this body. If a large element of the research sponsored by the DHSS were to continue to be undertaken by groups within various academic institutions having long-term support, any possible tendency for the research programme to be used merely to buttress departmental policy would be minimized and the necessary independence of view would be maintained. An arrangement of this kind in which the DHSS would have a large direct stake would, in spite of the possible political and other disadvantages, be more likely to make the best possible use of the initiative of the research staff whilst at the same time affording the greatest chance of successful implementation.

INTELLIGENCE AND EVALUATION

In terms of the operation of an effective health care system, intelligence and evaluation must play a central role. The intelligence function involves the monitoring of the current performance of the system, with a view to the application of control measures where necessary. In essence, this is one of the major tasks of management within the health services and particularly so at the national level. In the consultative document on NHS reorganization put forward by the present government, great emphasis is given to the need 'to set clear objectives and standards and to measure performance against them' (1). In so far as mortality may be regarded as resulting at least to some extent from a failure of the health care system, national vital statistics must play a basic role. The reshaping of the birth and death registration systems to permit the collection of associated medical information is a task which should be given the highest priority and which should be closely linked to the over-all management of the health care system. At the present time, many of the vital statistics collected on a routine basis are identified in terms of local authority and hospital board area and the next logical step would be to take account of particular associated health services agencies and patterns of treatment.

An essential prerequisite of any reshaping of the system for the

collection and analysis of vital statistics with a view to giving increasing emphasis to the monitoring function, would be closer co-ordination with the processes of collecting information about morbidity and items of service provided by the health care system. In this respect, the tertiary level of care is of the greatest importance and the improvement and amplification of the existing Hospital Activity Analysis is an obvious first step. However, for many serious conditions hospital in-patient care is by no means the only approach and in order to obtain a balanced view of the situation the secondary and primary levels cannot be neglected. If full advantage is to be taken of the existing techniques for data processing and statistical analysis, there is no question that information about individual medical histories provides potentially a very valuable basis for the improvement of medical care, both in terms of research and control. The opportunity is one which should on no account be missed. At the same time it must be recognized that manipulation of personal information of this kind has a potential for harm as well as for good. The issue of setting up adequate safeguards is one which should not be shirked. Given the background of general confidence in the medical profession which has been built up in this country over many years, there is little doubt that acceptable administrative arrangements are possible. If necessary, the issue of medical records should be treated separately from the more general question of the manipulation of data banks containing information about people.

The collection, assimilation, and presentation of information about morbidity and about particular health service activities calls for a determined and professional approach which is clearly lacking in many respects at the present time. Under the proposed new form of organization of the health service, any improvements must begin at the regional health authority level. The suggestion advanced by Ockenden and Bodenham (6) in their study of medical computing in Scotland that a senior information processing officer (SIPO) should be appointed as a leading member of the regional team and equal in status and authority to the senior administrative medical officer and to the secretary and treasurer, would be a step in the right direction. Responsibility for computing (other than advanced projects under the direct control of a central computing laboratory) would also be included and advanced data-processing facilities would be required. As in the field of computing,

matters of standardization, and general policy would call for central direction from the DHSS. It is at this level that the vital statistics and morbidity statistics systems should be brought together. Effective planning must be based on sound information and the responsibility for achieving this goal must be accepted at the centre.

The full advantages of a medical information system will not, however, be realized until the three existing branches of the health services are effectively unified. Only then will it be possible to ensure that a comprehensive and efficient range of activities can be supported. Responsibility for setting up and running such a system will be one of the main management functions in any unified structure. Studies of alternative methods of providing a service of this kind should be regarded as an essential preliminary to unification. Whilst the detailed requirements remain to be defined, it is clear that comparable information should be provided in all parts of the country, as it is only in this way that an adequate and just national policy can be formulated. Great care must be exercised to ensure that the form of presentation of results is not misleading and that due account is taken of any relevant variations in population served or in resources, so that when the situation in different areas is considered, like is in fact being compared with like.

A vital part of the intelligence and evaluation function is to draw attention to uncertainties where they exist and hence to bring into focus topics for research or experiment and to allocate priorities to particular problems. Notwithstanding the deficiencies in the nature and scope of the existing statistical information about health service activities, much useful data are being collected now and have been recorded in the past. For example, the periodic summary reports relating to individual hospitals which have been returned to the DHSS for many years provide a unique record of the situation relating to this branch of the health service. For the most part these returns have been used as a basis for administrative action and in some cases summaries of the results obtained have been published. However, the form of these summaries (where they exist) is often unsuitable for research purposes and it is often necessary to examine the individual returns if effective use is to be made of the information collected. Whilst the attitude of the DHSS to requests for access to primary sources of information is

generally helpful, the basic returns are seldom assembled in an accessible form and much work must be done to process the data for analysis. Often this task is beyond the resources or the competence of particular research workers or groups. Great benefit would result if selected sources of basic information were to be assembled in computer-accessible form and made available for approved research projects. A statistical data bank of this kind should be accompanied by a commentary giving the sources and content of the various component parts, together with known deficiencies and a list of summaries already available. This is a task which might be dealt with source by source and if tackled in this way would be manageable without undue effort.

IMPLEMENTATION

Implementation is also one of the primary preoccupations of management. Given the present structure and practices in the NHS, in which the management function is exercised at a variety of levels, putting into practice what are agreed to be desirable technical changes presents formidable problems. The disciplines which can be exercised by a public authority over activities in the private sector of the economy, often involving financial or legal sanctions to which management is subject, do not and cannot apply. For example, the operation of a licensing system for hospitals and other health care facilities as applied in certain other countries would be impossible. Nor is it realistic to reduce future allocations of finance to activities which are managed inefficiently.

Whilst reorganization may produce a better structure, the underlying solution to these problems may be regarded as part of the broad process of education. Although this field is generally considered to be best left to the educators, there is certainly room for the NHS to play a more active part, both in terms of the continuous review and updating of the material and content and also by providing an opportunity for staff to participate. Retraining is increasingly called for, possibly coupled with the periodic review of the licence to practice medicine at particular levels. For the GP the establishment of postgraduate medical institutes, together with the introduction of special payments to doctors attending approved courses, has begun to fill a very real need. Until adequate provision has been made for the potential demand

this process must remain on a voluntary basis, but there are compelling arguments for moving towards a position in which re-education is formally accepted as an integral part of the career pattern of all grades of health service staff. Within the hospital service, more serious consideration should be given to the possibility of the planned movement of specialists to ensure exposure to new techniques and to prevent isolation from new ideas.

In order to achieve broad objectives formulated and agreed on a national basis, it is necessary to provide the proper motivation and incentives to management at the local level. The existing structure of the NHS has been shown to lead to an under-utilization of resources in comparison with other types of medical care system. This may be partly the result of traditional attitudes but without doubt is also associated with the particular methods of management and financial control applied in different parts of the health service. As part of any future reorganization, the provision of effective incentives to good medical practice and management of resources should be given a high priority.

INSPECTION

At the present time, the NHS gives little attention to the standards of performance either of individuals or of institutions unless complaints are made by outside agencies or by aggrieved patients about specific and gross lapses of standards. This attitude reflects to some extent the absence of an accepted code of conduct, of reliable comparative information about the extent and quality of particular services and of any mechanism by which deficiencies can be dealt with other than on an *ad-hoc* basis. The essay by Professor Dollery in which he advocates the formation of a health advisory service sets out a convincing solution to this very real problem. The establishment of such a service might also contribute very significantly to the diffusion of useful ideas and to the upgrading of the standards of performance of particular institutions.

Staff

The provision of medical care is without doubt a prime example of a labour intensive activity in which success or failure must depend critically upon the calibre of the key staff. The

traditional role of the doctor as the very cornerstone and focus of the whole system is likely to be given even greater emphasis by the processes of change. Recent developments in information handling and in other areas must, if successfully implemented, enable the medical and nursing staff to employ their particular skills to better effect. At the same time, however, it must be recognized that expertise of a type which is new to the health service environment, but already plays a leading part in commerce, industry, and government, will be called for. It is now generally accepted that the problems presented within the health services are on the whole at least as exacting as those in the fields of application in which the new techniques are well established and where there is a continuing shortage of well-qualified and experienced staff. If these problems are to be solved, suitable personnel must be recruited and retained within the health services, in the face of keen and increasing competition from employers in the private sector of the economy. In the long run this will only be done if the health services and, in particular, the medical profession are willing to accept the proposition that the expertise in, for example, computing or operational research, should be complementary to and not subordinate to expertise in clinical medicine and should therefore be rewarded in a comparable manner. The disappointing pattern of development of other non-medical scientific and technical activities within the health services during the past decade underlines the probable consequences if the value of this particularly mobile and well-rewarded section of the population is not properly recognized.

As far as the development of medical computing is concerned, the initial staffing of the experimental projects has of necessity depended very largely upon the recruitment of people who have obtained their experience in other areas. In the event, some initial success has been achieved in attracting suitable well-qualified applicants into this fascinating and socially attractive field. Labour turnover within the computer profession is, however, very high and there is both the will and the opportunity for computer specialists to broaden their experience by frequent changes of employment. Indeed, at certain of the key levels in commercial computing, median periods of employment in the same job as low as one year are not uncommon. Faced with this high degree of mobility and the equally high expectation in terms of financial reward and job satisfaction, it is vitally important that an attractive long-term

career structure should be evolved. The existing organizational pattern, involving comparatively small units administered in isolation from each other, is manifestly unsatisfactory. To provide the required scale and breadth of activities, an adequate staffing structure must at least initially be organized on a national basis. This is a function which might appropriately be vested in a central computing laboratory. Given the requisite administrative framework it would then be possible to arrange a planned programme of career development for computer personnel which might provide a model for other areas within the health services. The position as to the initial recruitment of staff to carry out applied research is in general less favourable than that for computer personnel, in the sense that the potential sources of qualified specialists in other parts of the economy are more restricted. Nevertheless, there are substantial numbers of numerate scientists who may well be attracted into university-based research units. In this type of environment there is less need for a formal career structure and the usual academic mobility patterns both nationally and internationally are likely to be satisfactory.

In the long run the NHS cannot rely entirely upon the recruitment of staff who have obtained their basic experience elsewhere. There is a need to train both the leaders of research and computer projects and also their professional staff. It follows that deliberate steps must be taken to establish a programme of training.

The main requirement is for experience of the numerical disciplines, including mathematics, statistics, operational research, and computing. Whilst each separate discipline has an important part to play it is now becoming clear that a more general professional training involving all the numerical disciplines is likely to be the most useful preparation for a career in computing, information processing, or applied research. This combination of subjects may be classified collectively under the heading of 'information science', although it is unfortunate that this term is also employed to describe a much more restricted set of activities in the general field of library work.

There are two obvious sources of candidates for training. First and most important in numerical terms are medically qualified or medically orientated staff for whom an understanding of information science at least on a general basis is likely to be valuable. Secondly, there are graduates with a numerical background in mathematics or in the pure, applied, or behavioural sciences.

Initial training for the first category is probably best dealt with through the medical schools, nurse training schools, and similar bodies and it is to be expected that the courses offered will be developed to match the provision of the new forms of technical aid. Suitable candidates for the second category exist within the health services only to a very limited extent, although it is possible that some entrants to graduate training programmes in administration and members of the staff of the Department of Health and the regional hospital boards would have the necessary background and motivation. At this stage the number of posts available is relatively small but the specialists occupy a key role and their importance will almost certainly increase in the future. The best source of recruitment for this category would be newly qualified graduates, many of whom now look for a further period of formal training. In order to provide an adequate background, specialist instruction should take the form of a one-year postgraduate course at a university. There are very definite advantages in running a course of this kind in a department with a large existing programme of undergraduate and postgraduate teaching in the numerical field, rather than in a medical school (which might at first sight seem more appropriate), since students of adequate calibre are more likely to be attracted to postgraduate work in the medical field if this is introduced in surroundings which they know and can trust. Arrangements are being made to establish a training programme of this kind with the help of a short-term grant from the Nuffield Provincial Hospitals Trust, but longer-term support involving at least one further centre is required.

In addition to the provision of basic training there is also a need for the education of existing and newly recruited staff. An essential preliminary to any general introduction of the new information handling and research techniques must be the familiarization of key senior staff in all three branches of the health services with the basic philosophy and approach. In the hospital service the categories involved would include chief officers of regional hospital boards and boards of governors, senior medical staff, nurses, and administrators and board members. It has been estimated that the numbers would amount to at least 5,000 but that there may be as many as 30,000 persons for whom such training would be highly desirable. The content of a suitable training programme would include such topics as management structures and information

flow in the hospitals and between the hospitals and the other branches of the health services, the identification of problem areas, general instruction on the historical development and function of computer systems, medical applications of computers, costs and benefits, research methods and techniques, and the existing structure of research and development in the area of computing and other applications. In the terms of general practice, similar courses should be provided for members and staff of executive councils and general medical and dental practitioners and perhaps some 2,000 persons should be involved at a relatively early stage. There is also a requirement for the training of senior local authority health and welfare staff and the initial requirement might well be very similar to that in general practice. Much of the hospital training programme would be applicable to the other two branches but provision should be made to deal with the special interests of the particular groups.

In view of the nature and scope of the subject matter these appreciation courses must cover at least five days on a fully residential basis. Since the most senior grades would be involved it is very important that the standards of instruction should be high and comparable with those provided at the postgraduate level in universities or medical schools. In order to meet these very exacting requirements the most satisfactory solution would be to set up a health services training unit which would be staffed and financed at the national level and might also come under the control of the central computing laboratory. Alternatives, such as the running of occasional courses at particular universities are unlikely to meet the requirement.

Apart from these general appreciation courses, more detailed and intensive training will be required for medical, nursing, and administrative staff who will actually be involved with particular computer or information-handling projects. The provision of such training must be regarded as an integral part of the work of the individual projects, whose success or failure depends ultimately upon the understanding and co-operation of the health services staff. General assistance with user instruction might well be provided by the proposed national training unit which might also provide advice about teaching methods.

In addition to the instruction of health services staff, the introduction of computer and other specialists from other fields poses a

distinct set of problems. Such staff should be given general health services orientation courses at the local level. Non-graduate staff recruited from within the health services will require specialist training in programming systems analysis and other skills. Whilst this function might be allocated to the local technical colleges or bodies such as the National Computing Centre, the responsibility is one which might better be assumed by the national training unit. Only by keeping this responsibility within the health services is it likely that the necessary emphasis will be given to the training programme. At the same time the responsibility for more detailed and technically exacting instruction of this kind would provide a very necessary stimulus to the staff of a national training unit.

Postscript

This essay describes what is essentially a personal view of the way in which the uses of information within the health services should be developed during the 1970s. All the proposed changes are practicable given the existing state of knowledge and technology and most are probably acceptable in the prevailing climate of opinion, both within the health services and in the country generally. Furthermore, the coming reorganization of the structure of the health services offers an opportunity for effective action to be taken. Nevertheless, deliberate and positive action is required if the necessary programme is to be carried through in a smooth and purposeful way. The main steps in this process may be summarized in order of importance as follows:

STAFF STRUCTURE

None of the developments can be carried out without the necessary key staff, who will have professional skills in the field of information science. This must involve the creation of an adequate staff structure, at all levels at which the health services are organized. A start might be made at the central government level, initially with the professional staff of the experimental computer projects. At some suitable stage, this group should be expanded to include the staff of health care research units administered centrally by the DHSS, together with the existing statisticians and operational

research workers employed by the Department. In order to start to build up a professional capability at the local level, regional hospital boards should appoint or develop information processing teams. When the expected unification of the health services comes about, the members of these teams should be transferred to the regional and area health authorities to establish information processing systems to cover all the local health services and to take responsibility for local non-experimental computer projects. A salary structure, preferably giving general parity with medical grades or with the scientific Civil Service, should be set up.

STAFF TRAINING

Postgraduate courses in health services information science should be set up at two or three universities in England and Wales. A central health services training unit should be established by the DHSS to provide familiarization courses in information science for senior health services staff and for other purposes. Action in both these directions is required as a matter of urgency, in order to ensure an adequate stream of recruits to staff the proposed new developments, and to create a receptive attitude amongst the existing health services personnel.

ORGANIZATION

At all levels the organizational structure should reflect the fact that the various aspects of information science, including the computing, statistical, and health services research activities are part of a coherent whole and should develop in a well-co-ordinated way. Within the DHSS, a health services computer laboratory should be set up to take responsibility for 'experimental' computer projects, which may be expected to continue for the foreseeable future. A separate class of 'routine' computer activities will emerge during the early part of the decade and under the existing form of organization these should be vested in the information processing departments of regional hospital boards. Ultimately, these activities will form part of the information processing function of the unified local health services, which should include the local vital statistics system as well as internal health services functions.

CONFIDENTIALITY OF RECORDS

The best hope for the proper understanding of degenerative disease lies in the analysis of individual medical and environmental records on a large scale. The information contained in such records is also essential for the formulation of an efficient management policy for the health services generally. For both these reasons, access to individual records must be regarded as being in the long-term interests of the whole community. However, an essential concomitant of this approach must be the establishment of a statutory body to safeguard the general public against the misuse of personal medical records. In view of the existing public disquiet, this should be done as soon as possible and if necessary independently of any similar body with terms of reference outside the medical field.

HEALTH CARE RESEARCH

Existing methods of promotion of health care research should continue to be developed. Progress should be reviewed at about the middle of the decade and any necessary changes made in the light of experience gained. It may be envisaged that a systematic and more representative review procedure would be established at this stage. A 'second force' in health care research should be established on a firm long-term basis in collaboration with the MRC.

If the above action is implemented, a basis will be provided for the successful development of information science in the health services. The major responsibility must be taken at the level of central government and the management of these advanced technical activities should rest mainly with the DHSS. This involves a departure from the existing practice of delegation to the local level, but the possible penalties which the conventional management procedures would probably produce more than outweigh the change in basic approach.

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Part Two

SOME REALITIES BEHIND STRUCTURAL CHANGES

6

Unification and its implications for local organization and management of health services

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Unification and its implications for local organization and management of health services

Summary This essay examines some of the implications of two of the objectives of health service reorganization, namely the unification and integration of existing services and the allocation of maximum responsibility for administering these services to area health authorities with opportunities for professional and local participation. Answers to three main questions are discussed:

1. How to secure the integration of services at operational level.
2. How to provide effective management.
3. How to secure the participation of the professions and the public.

1. Using data collected in two potential area health authority areas, the existing services of direct care and of support are examined in detail and a model for the integration of services suggested.
2. Three types of management are distinguished and analysed; the general management at the operational level concerned with the co-ordination of the entire organization, the determination of policies, the setting of objectives, and the management of resources, all within the context of medical and social priorities; the management of skills within professional or similar groups that are sometimes organized hierarchically and others that are

anti-hierarchical in nature; and the management of individual medical services through multidisciplinary teams, accountable to the general management through co-ordinators or team leaders.

It is argued that general management is to be found at all levels but that, at the operational level, it must be accorded maximum delegation to enable it to settle speedily and efficiently its own priorities and objectives (albeit within the framework of nationally and regionally decided policies and priorities). The management system should, therefore, provide for general strategy to be reviewed regularly and for area health authorities to produce a management plan by which resources can be allocated in a co-ordinated manner, achievement of objectives can be monitored, and individual officers held accountable for specific results.

3. Participation by the professions, it is argued, is best achieved by full professional participation in multidisciplinary teams and by strong advisory machinery. Participation by the public in management is only possible at the authority level, although 'consumer councils', perhaps on the lines of the local councils proposed by Redcliffe-Maud, may be a useful additional method. An effective complaints machinery is another way of ensuring public participation.

It is argued, in conclusion, that reorganization, if it is to be effective, must be preceded by careful planning of such things as an improved information system, a unified central personnel system, and a central staff college to train staff and engage in continuing research.

Introduction

The change of government brought about by the General Election in June 1970 provided a breathing space to look more closely at some of the implications for organization and management of the health service inherent in the unification of the administrative structure proposed in the two Green Papers published by the Labour Government (1).

Three of the major problems facing the health service of the 1970s are expected to be:

1. How to move the focus of health care away from the hospital to the community putting greater emphasis on health education and preventive medicine and the development of community services.

2. How to keep a proper balance between the provision of acute medical care and the care of the aged and the physically and mentally handicapped.

3. How to cope with continuing rising costs and shortage of resources of both manpower and money to meet the total health needs of the community.

To help to solve these and other problems the Green Papers suggested that the existing tripartite division of the health service into family practitioner services, local health authority services, and hospital and specialist services should be abandoned and the service brought within an integrated administrative structure. In his foreword to the second Green Paper Richard Crossman stated:

> My main aim in making these proposals is to secure that the total health needs of each individual patient and each family will be met by one integrated health service. The removal of the present administrative barriers between the different parts of the service will enable everyone working at every level of the health service to plan, administer and provide for the comprehensive health needs of every citizen (2).

Under the proposals in the second Green Paper local authorities were to retain their public health functions including the prevention of the spread of communicable diseases; food safety and hygiene; port health; diseases of animals; and the public health aspects of environmental services. They were to retain also, in addition to the children's services and the social services provided for the elderly, the handicapped, and the homeless, certain services provided under health powers including family casework and social work with the sick and the mentally disordered; day-centres and adult training centres for the sick and the mentally disordered; the day care of children under 5; home helps and residential accommodation for those unable to live at home but not needing continuing medical supervision (2, p. 12).

The Consultative Document published by the Conservative Secretary of State (Sir Keith Joseph) in May 1971 did not depart substantially from the main objectives of the previous administration and, indeed, it was clearly stated that there was a wide mea-

sure of agreement on the basic element of reform—the replacement of the present fragmented structure by an integrated service (3).

OBJECTIVES

The four main objectives for the projected reorganization of the administrative structure of the health service were stated in the second Green Paper to be:

1. To unite the NHS. 'Not only must the different branches be controlled by the same authority but the separate services must be integrated at the local level.'

2. To establish close links between the NHS and the public health and social services provided by local government.

3. To place the maximum responsibility for administering the NHS on area health authorities with strong local and professional participation and 'to involve each community in the running of the services of its district'.

4. To provide effective central control over the money spent and to ensure maximum value for money (2, pp. 2, 3).

The Consultative Document accepted, in general terms, these objectives quoted from the second Green Paper. It is, however, interesting to note an elaboration of the second principle (in paragraph 8 which promises a Working Party to investigate aspects of these close links) and a change of view on the third principle, which is made explicit in the discussion (paragraphs 14–19) of the membership of area health authorities.

This paper concentrates on the implications of the first and third of these objectives on the organization and management of a unified health service at the basic operational level. It was in this area—the point at which the services are actually delivered to patients—that both Green Papers were less than satisfactory in their descriptions of how the local organization would actually work in practice. The Consultative Document did not attempt to describe the proposed arrangements at this level but promised a Working Party to look at 'detailed management arrangements' (paragraph 7).

PROBLEMS

In considering the pattern for the future it is useful to look at some of the problems of the past and, indeed, the present administration

of health services. In the hospital service one of the problems of the past has been the uncertainty which surrounded the relationship between regional hospital boards and hospital management committees, a problem with which the Guillebaud Committee attempted to deal as early as 1955, but which still remains a problem to this day, notwithstanding the attempt in 1969 to restate the relationships of the various tiers of authority within the service (4).

A second problem has been the failure to appreciate that a highly complex organization requires highly skilled and professional management, coupled with the belief that, in some mysterious way, co-ordination can be an effective substitute for management even though the individual or committee charged with the task of co-ordination has no authority or control over the forces which he or the committee is attempting to co-ordinate.

Thirdly, there was the failure, at least until the Maud Committee on the Management of Local Government (5) and the Farquharson-Lang Committee on the Administrative Practice of Hospital Boards in Scotland (6, 7) highlighted the problem, to make a clear distinction between the functions of members of local authorities and hospital authorities and the functions of officers.

ASSUMPTIONS

The future pattern of the organization of the health service in the 1970s is, at the time of writing, still not finally settled. Some assumptions have therefore had to be made about the nature of the organization of the future. These assumptions are:

1. That the administrative structure of the NHS will, in fact, be unified during the course of the 1970s.
2. That the health services will be unified within a new administrative structure which will be outside local government.
3. That, because the operation of health services demands the maximum decentralization and delegation, the health authority of the future will have reasonable freedom and authority to settle its own priorities and objectives and allocate its resources within the general framework of national policies and objectives.
4. That there will be some form of regional authority responsible for the strategic planning and development of the health services within its region.

A study of the proposals in the Consultative Document suggests that these assumptions are, in general terms, valid for the structure envisaged in that document.

These, then, are the main objectives for a reorganization of the service, some of the problems which ought to be taken into account in considering the future pattern of organization and the assumptions we have made. As we have stated the object of this paper is to concentrate upon the implications at the operational level but some of the problems we will discuss are also applicable to other levels.

As we see it, the questions to be answered at the basic operational level are:

1. How to integrate the separate services.
2. How to manage effectively the unified and integrated health services.
3. How to secure the participation of the professions and the public 'in the running of the services'.

Integration of services

OVER-ALL OBJECTIVES

Although, as we have seen, the first major objective of reorganization was to unite the service and to integrate services at the local level, very little was said in either Green Paper or the Consultative Document about the over-all objectives of an NHS. Indeed, we suffer in the health service from an absence of explicit goals and objectives in health policy. Without them it is difficult to decide upon the nature and scale of the services that are needed and how they should be organized. Without them decisions on the use of resources to meet the purposes of health care are, at best, based on expediency or, at worst, become power struggles; the strong obtain the resources they believe they need and the weak go to the wall—'those who shout loudest get most'.

Furthermore, it is doubtful whether integration of services can be effective unless there are over-all objectives to which each service can be related. If we can decide upon the over-all objectives then we can proceed to examine more confidently the contribution which existing services make to the over-all objectives, to bring together services or activities with common objectives and to

examine the kind of organization which is needed to promote the achievement of the over-all objectives.

The main purposes of an NHS might be tentatively described as:

1. To promote good health and to prevent illness.
2. To diagnose, treat, and rehabilitate people who are ill, or injured, or who require medical treatment.
3. To provide and maintain institutions for the care of the sick and the physically and mentally handicapped who cannot be cared for at home and who require continuing medical supervision or nursing care.

Three subsidiary purposes are:

4. To educate and train health personnel.
5. To provide facilities for clinical research.
6. To provide medical advice to agencies responsible for services allied to health.

More thought needs to be given to the over-all objectives; for example any boundary drawn between health services and social services, between care and welfare, is likely to be artificial and create problems of co-ordination in the provision of services. Such a boundary has, in fact, now been drawn by the Local Authorities Social Services Act 1970, which gives effect to the main recommendations of the Seebohm Committee on Local Authority and Allied Personal Service (8). The arguments for this boundary were set out cogently in the second Green Paper (2, pp. 9, 10) and, although many in the health service will deplore the continued division between health and some aspects of welfare, it is not the purpose of this paper to examine this issue. Nor do we propose to examine the necessary relationship between health and welfare authorities except that in our assumptions we exclude one solution, i.e. the control by local government of both health and welfare services.

REORGANIZATION OF SERVICES

It is becoming increasingly accepted that the integration of the services which at present comprise the NHS will not be achieved merely by providing an organization at the local level which, in

effect, continues the existing tripartite division of the health service into family practitioner services, hospital and specialist services, and local health authority services. In 1962 the Medical Services Review Committee under the Chairmanship of Sir Arthur Porritt (9) did, in fact, suggest the unification of the services under area health boards, and suggested that the tripartite structure should be retained, with the addition of the occupational health service, each part being administered by separate councils subsidiary to the area board. Integration will not be achieved merely by bringing the three parts of the health service under one umbrella. Unless positive steps are taken to provide an organization which is directly conducive to the integration of services, any reorganization will fail in one of its major objectives: indeed, if it fails in this objective it is doubtful whether the reorganization is worth proceeding with at all.

Both the Green Papers recognized the importance of integration: the first Green Paper said:

The structure ought positively to encourage more integrated services and patterns of care (1, paragraph 16).

The Area Board would require a type of internal organization appropriate to its comprehensive role. It would have to be something much more than a roof beneath which separate parts of the service such as the hospitals on the one hand and community services on the other could lead distinct and largely unco-ordinated lives. It would also need to prevent any tendency for one element in the service to dominate and distort its policies. With this in mind its first main task would be to weld together the services as a whole in both forward-planning and day-to-day operation (1, paragraph 60).

The new comprehensive Boards would be required to develop arrangements for securing integration of the separate services within each of the several operational districts. . . . The services in each district . . . would be the basic bricks in each Board's administrative arrangements (1, paragraph 71).

The second Green Paper said:

The main principles which the area health authority would be expected to adopt . . . would be:

(i) that the administration of all the health services for which it is responsible is to be unified;

(iii) that most of the services provided will depend upon the close collaboration of the many professions within the service working together in various groups and teams.

It follows that the pattern of the organization should no longer follow the tripartite division into hospital, general practitioner and local authority services. Nor should it be based upon the separate professions within the service. The organization of a unified service should be based primarily upon the various functions which comprise the service (2, paragraph 69).

The most important principle which must govern the administration and organization of the area health authority is the removal of the present barriers between the three parts of the service. Both the members and the officers must view the service which they are administering as an integral service and base their plans upon the total health needs of the patients for whom the services are provided and of the communities in which they are providing them (2, paragraph 77).

Whilst the first Green Paper clearly recognized the necessity to do something more than bring the three parts of the service together under one roof, the second Green Paper more explicitly accepted that the organizational pattern would have to be based, not upon the existing tripartite division nor upon the separate professions within the service, but 'should be based primarily upon the various functions which comprise the service'. Integration obviously means more than unification. Each service should be looked at as a whole, whether it is provided in the homes of the patients, in clinics, in health centres or in hospitals. The dental service, for example, is at present provided partly by the family practitioner services, partly by the school health service, partly in child welfare centres of local authorities and partly by the hospital and specialist services. The maternity service is provided by family practitioners both in the home and in GP maternity hospitals, by the domiciliary midwifery service of local health authorities and by the hospital and specialist services.

It is important to ensure that all activities with common objectives should, as far as practicable, be looked at together with the results desired and the resources needed balanced against those of other services in planning a comprehensive system of health care.

Integration of services also means that scientific, technical, and professional support services must be made available to all medical users and not only to hospital doctors. The radiology service and the pathology service is increasingly becoming available to all medical practitioners whether they practice in hospitals or in the community but other services such as, for example, the rehabilita-

tion services are rarely available to the GP except through referral to a consultant at the local hospital. Some services like speech therapy, chiropody, and physiotherapy can be found both in hospitals and in community services but they are separately staffed and organized.

Integration therefore can be taken to imply a balance of provision within a service, a balance of provision as between different services and professional and technical support available to all medical users.

In order to postulate a form of organization which will best promote the integration of services one needs to examine in detail the objectives of the existing services or functions which comprise the service.

To help in this task detailed studies were made of existing services in two of the new local government areas proposed in the 1971 White Paper on Local Government (10). The areas selected were the Doncaster District (1970 population: 285,000) within the South Yorkshire Metropolitan Area No. 7 and Nottinghamshire (Area No. 20) (population: 1,002,000). As all health services require people to provide them the deployment to various services of all personnel engaged in the existing three parts of the NHS was studied and an inventory of existing health services produced. The existing health services were classified under four broad categories:

1. Family practitioner services.
2. Consultant and specialist services.
3. Hospital services.
4. Community health services.

OPERATIONAL SERVICES

By examining the objectives of the existing services it is possible to group them in relation to the three main objectives of the NHS which we have previously defined. These services may be grouped as follows:

Group 1. Medical services

(*a*) *Preventive services.* Medical services concerned with the public at large and mainly directed to the promotion of good health and the prevention of illness, e.g. health education, vaccination and

immunization, control of communicable disease, early detection of illness and handicap.

(*b*) *Primary care services.* Medical services to which the individual members of the public look for primary diagnosis and, where appropriate, immediate treatment, e.g. the general medical and general dental practitioner services.

(*c*) *Specialist care services.* Medical services to which patients are referred for specialized diagnosis and/or treatment. These services are categorized according to the skills of the doctors and dentists providing the services, e.g. medicine, surgery, paediatrics, dentistry.

Group 2. Professional scientific and technical support services

For example, nursing, physiotherapy, laboratories.

Group 3. Institutional support services

Services required to meet the bodily needs, comfort, and welfare of patients who need institutional care and of the staff who provide health services, e.g. catering, cleaning, heating and lighting, maintenance of premises.

The above services together represent the staff who actually carry out the primary or dominant activities of the health service. They represent the operational system of the organization.

SUPPORTIVE AND ADVISORY SERVICES

In addition to the operational staff, advisory and supportive staff are needed to undertake research and provide advice and support both to the operational staff and to management. They are concerned with research, development, evaluation, education and training of health personnel, supply, and transport. Some operational staff also provide advisory or support services. Such staff have a dual role within the organization. Probably the most important example is that of those doctors who, on the one hand, provide services directly to the patients and, on the other, may undertake research and engage in educational and training activities.

The services which comprise the supportive system can be grouped as follows:

S1. *Health care research and evaluation*, including epidemiological

Why do we need management in a health care system? What is the nature of management? Management in the organizational sense has only recently entered into the vocabulary of the doctor; previously the only management to which he referred was the management of a patient. General practitioners have never welcomed the idea of being 'organized' nor do many of the professions supplementary to medicine. Hospital doctors seem resistant to the type of management structure suggested in the 'Cogwheel' Report (11) and, even in spite of the traditionally hierarchical nature of the nursing services, many nurses are apprehensive about the heavy emphasis on management in the report of the Salmon Committee (12). What prescribers and providers are primarily concerned with is the patient in front of them and the application of their own professional skills to the care and treatment of that patient.

We have already touched on one reason why we need management in health care in our discussion of the relationships of the various services which comprise the NHS. With the increasing complexity of modern medicine, and increased specialization, there is need for a multidisciplinary approach to the care of the patient and multidisciplinary teams need to be 'managed'.

Another reason for management is the necessity of the State to intervene in the provision of health care. In all developed countries it has been impossible for health care to be left to the laws of supply and demand. The State is being forced to intervene on economic and social grounds. Otherwise the supply of health care would be limited to those who could afford to pay the market price.

The effect of this would be (and in the past has been) that those least able to afford health care have been unable to obtain it: very often they are the people who most need it. With a virtually unlimited demand for, and a strictly limited supply of, health care the State intervenes to exert pressure on the providers to give due regard on social grounds to those in greatest need irrespective of their means.

Furthermore, with the escalating costs of medical care, virtually all developed countries are being forced to finance the provision of health care through general taxation, compulsory insurance, or a combination of both. The State has, therefore, become vitally interested in the deployment of resources and in securing value for money, as well as in the effect of health expenditure on the national economy.

Within the British health service general management has come to occupy a position which is concerned not only with the management of the institutions in which or from which health services are provided but is also the custodian of the public interest in ensuring that resources over the whole range of health services are used wisely and deployed in such a way as to ensure that social needs as well as medical needs are taken into account. General management, therefore, provides the essential link between the public, the prescribers and providers and the institutions: it is the mechanism which articulates the whole enterprise.

We refer to 'general' management in this sense to distinguish it from two other forms of management to be found in the health services and to which we have already made reference. These are the internal management of *groups of people with common skills* (e.g. doctors and nurses) and the internal management of *medical services or functions* (such as the maternity service; the psychiatric service; health education). That such a distinction needs to be made is in no way a denigration of the management of skills and services which is fundamental to the efficient provision of health services. We propose to discuss these three aspects of management in turn.

MANAGEMENT OF SKILLS

Basically two forms of organization can be found in the management of professional groups or skills in health services. The first is the hierarchical pattern to be found amongst the providers of most of the hospital services (but not the consultant and specialist services) and the community health services of local authorities. There is a clearly defined management structure with various tiers of management, each 'manager' exercising both professional supervision and management authority.

Such skills are organized on a unified management principle, i.e. there is one head of the service who is accountable both managerially and professionally to the authority. Typical examples in the professional and technical support services are nurses and physiotherapists; in the institutional services, catering staff and laundry workers; and in community services, health visitors and district nurses.

The other form of organization is basically anti-hierarchical in

by the inadequacy or non-co-operation of one of its members. In the last resort he can report to his superior and, ultimately, to the authority that he is unable to discharge his responsibility.

The organizational problem of dealing with the management of multidisciplinary groups is not unique to the health services. It can be found in industry in the management of professional groups concerned with multidisciplinary development projects; in the management of scientific research projects; in the personal social services; and (at regional hospital boards) in the management of design teams concerned with major building projects (13).

One answer, therefore, to the internal management of particular health services would appear to lie in the concept of the multidisciplinary team, accountable through a co-ordinator or leader to top management for the achievement of the team's objectives.

One way in which such a team can work in the field of mental subnormality was described in an article by James Elliott in *The Hospital* in March 1970 (14). It is understood that the East Birmingham Hospital Management Committee, where this experiment was carried out, is contemplating extending the concept of the 'professional executive team' to other specialties in the group.

The concept of multidisciplinary teams is shown diagrammatically in Fig. 6.2 and a model for the organization of a unified health authority in Fig. 6.3.

MANAGEMENT OF THE TOTAL ENTERPRISE

General management within a unified health service will be found at different levels. It will be found in the central department where its main functions would be expected to be to decide national policies and priorities, to allocate resources and to secure the efficient use of resources in the national interest. It will also be found within the basic operational unit required for the delivery of health services to the community. It will be found also in any intermediate tier of authority which the pattern of organization may demand.

We have assumed for the purposes of this paper that, in addition to the basic operational unit and the central department, there will be a regional tier of authority with certain defined functions. We have further assumed that such a regional authority will be responsible *inter alia* for the strategic planning and development

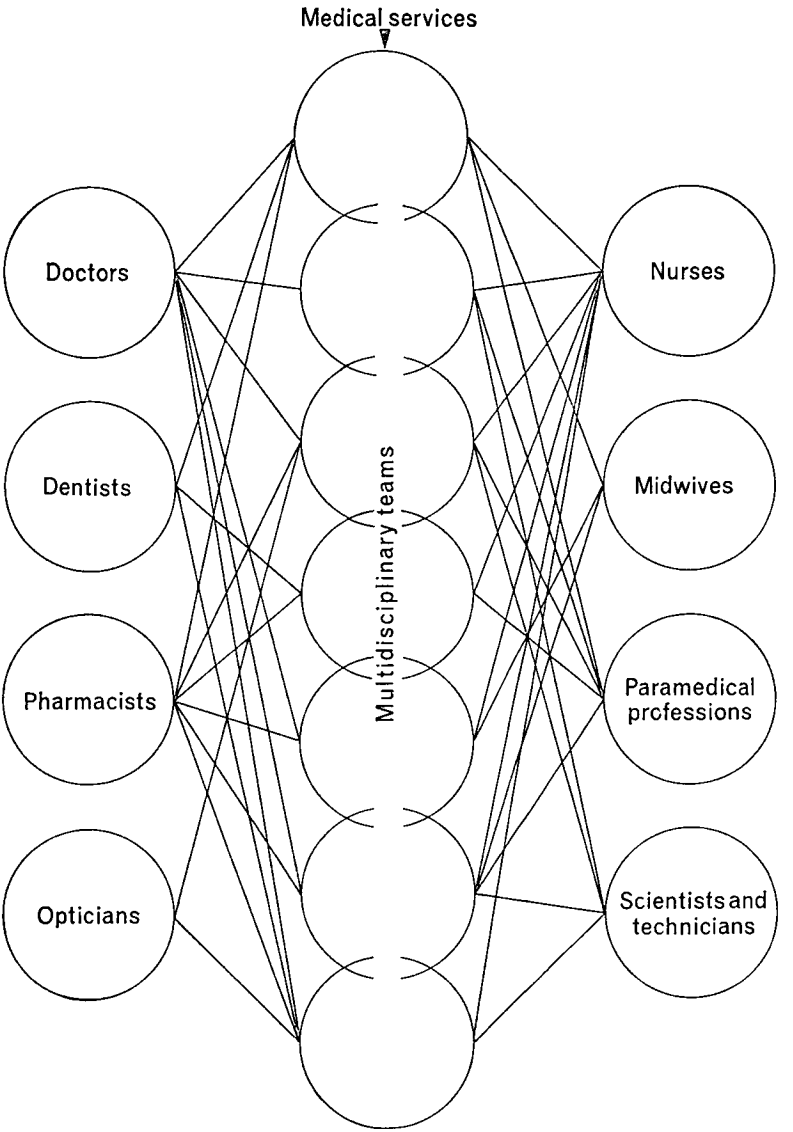
Medical services
Doctors
Dentists
Pharmacists
Opticians
Multidisciplinary teams
Nurses
Midwives
Paramedical professions
Scientists and technicians

FIGURE 6.2

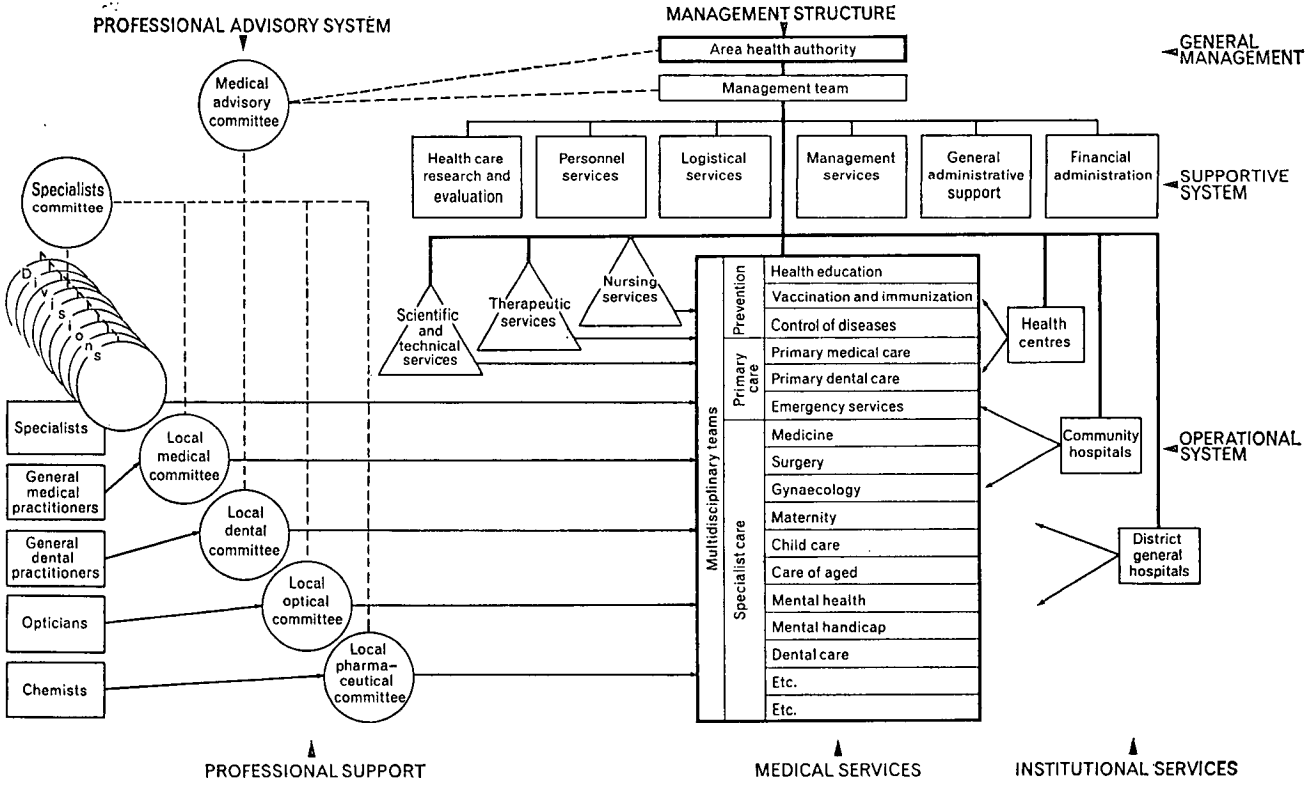
PROFESSIONAL ADVISORY SYSTEM
MANAGEMENT STRUCTURE
Area health authority
GENERAL MANAGEMENT
Medical advisory committee
Management team
Health care research and evaluation
Personnel services
Logistical services
Management services
General administrative support
Financial administration
SUPPORTIVE SYSTEM
Specialists committee
Divisions
Scientific and technical services
Therapeutic services
Nursing services
Multidisciplinary teams
Prevention
Primary care
Specialist care
Health education
Vaccination and immunization
Control of diseases
Primary medical care
Primary dental care
Emergency services
Medicine
Surgery
Gynaecology
Maternity
Child care
Care of aged
Mental health
Mental handicap
Dental care
Etc.
Etc.
Health centres
Community hospitals
District general hospitals
OPERATIONAL SYSTEM
Specialists
General medical practitioners
General dental practitioners
Opticians
Chemists
Local medical committee
Local dental committee
Local optical committee
Local pharma-ceutical committee
PROFESSIONAL SUPPORT
MEDICAL SERVICES
INSTITUTIONAL SERVICES

FIGURE 6.3

of the health services within its region and (to ensure that it will have power to translate its plans into effective action), that it will have the responsibility of allocating resources and deploying senior staff among the health authorities within the region. These functions would be exercised within the framework of the national policies and priorities determined by the central government.

It is not for us in this paper to deploy the arguments for differing kinds of central and regional authorities. Obviously it raises constitutional issues of wide-ranging significance, but the nature of management at the basic operational level will vary considerably according to the way in which the management authority immediately above it exercises its powers. Tactical planning and the operational control of services must rest with the basic operational unit, for decentralization and delegation are essential to secure freedom of action and speed of decision. The area health authority must have authority to settle its own priorities and objectives, and allocate its budget in detail, subject only to general directions from a regional health authority. This does not mean that the area health authority should not be required to take into account national and regional policies and priorities and be responsible to higher authority for its general performance and efficiency.

General management at the operational level, therefore, will be concerned with the co-ordination of the entire local organization, the determination of policies and the setting of objectives, and the management of resources taking into account medical and social priorities. The needs and aspirations of the public must be a major factor in the decisions of the area health authority. Nor can, or should, management make these decisions without the fullest consultation with the professional groups who prescribe and provide health services. Management decisions must, therefore, be based on consultation with the public and advice of the professions and must have regard to the total resources available for health care and the needs of the community for such care. How the public and the professions can participate in the making of such decisions will be discussed later.

MANAGEMENT INFORMATION

The area health authority, if it is to carry out effectively its primary function, will require a management system which enables it to

ascertain the health care needs of the area, to define the general aims of the various services and institutions providing those needs and to set specific objectives in order to achieve those general aims. If there is to be a unified service one of the important prerequisites to the introduction of such a system will be a complete review of the system of collecting information and the analysis and presentation of such information for management purposes. The concept of integration of services which is inherent in the proposals for unification would make it essential for the information to be presented on a *service* basis, bringing together outputs and inputs in relation to each service. And not only top management requires an adequate information system: the need is pervasive throughout the organization at all levels of management (15). Mechanisms will be required for framing budgetary proposals directed towards the achievement of objectives and information will be required which enables the achievement of objectives to be monitored and the needs and objectives themselves reassessed at appropriate intervals.

The chaotic state of the present management information systems within the health service is evidenced by the study of health services in the Doncaster and Nottingham areas. The statistical and financial information available about existing services is not related to a common pattern of services nor to a common period of time. The work-load statistics in relation to consultant and specialist services, some hospital services and local health authority services are for the year ended 31 December, whilst the work-load statistics for the remainder of the hospital services and the family practitioner services are for the year ended 31 March. The staffing statistics generally show the position as at 30 September. Estimates of expenditure of local health authorities are generally based on the services to be provided, whereas in the hospital service they are based on subjective headings of salaries and wages, goods and services, etc., unrelated to particular health services. The financial accounts of hospital authorities are likewise based on subjective headings, but the cost accounts, on the other hand, are in the form of departmental accounts, though the departments selected do not always coincide with the management structure commonly to be found within the hospitals.

Present methods of resource allocation, particularly in the hospital services, are largely empirical based on historical patterns of expenditure. One of the consequences of this is that a great deal

of effort is devoted to marginal decisions affecting the allocation of additional monies but little to the assessment of the use of the total resources available. Resources of manpower and buildings can be reallocated without necessarily affecting the total monetary resources required. In the last two years the Department of Health has accepted that the past methods of allocating money to regions for hospital revenue purposes, based largely on the previous year's expenditure plus a small increment for growth, has not been effective in redistributing the available resources equitably over the regions. Manipulation of the growth rate, which may be little more than 1 per cent per annum after taking into account the running costs of new capital developments coming into use each year, can only slowly effect a change in the balance of distribution. As a result, new arrangements have been introduced which will, over a period of years, have the effect of relating the allocations of money to regional hospital boards more closely to the population served by each region.

Probably the most significant developments for the 1970s in the allocation of resources to health lie in the new approach to the presentation of public expenditure proposals to Parliament. The report of Lord Plowden on the *Control of Public Expenditure* (16) proposed in 1959 that regular surveys should be made of public expenditure as a whole over a period of years ahead and in relation to prospective resources. Implementation of this proposal was slow although between then and 1969 four White Papers (17) were published which projected public expenditure ahead.

In the 1968–9 session of Parliament the Parliamentary Select Committee on Procedure took up the subject of parliamentary control of public expenditure and in April 1969 the Government published a Green Paper (18) suggesting that there should be a regular annual White Paper showing the results of each year's public expenditure survey by the Government and that the presentation of the White Paper should be fitted into the annual cycle of Parliament's examination of financial and economic matters. In their report to Parliament the Procedure Committee advised acceptance of this proposal and in particular recommended that the White Paper should be published each November (19). The first White Paper on this basis was published in December 1969 (20) and projected public expenditure five years ahead to 1973–4.

The operational significance of this procedure to the health

service is that the White Paper reflects decisions taken by Government to which all Departments must conform in their planning and administration. For the first three years the figures reflect firm decisions over the whole field of expenditure and the Government's priorities are clearly indicated in the size of the individual programmes and their movement over time. But for the fourth and fifth years, only provisional allocations are shown for individual programmes.

Thus, the White Paper published in January 1971 (21) indicates firm government decisions on the scale of public expenditure on health and welfare for 1971–2 and 1972–3, and provisional allocations for 1973–4 and 1974–5. The preparation of firm estimates for 1972–3 by health authorities does not commence until the autumn of 1971, so that the Secretary of State now has the opportunity between January and the late summer each year to review national policies and objectives for the development of the health and welfare services in the light of the known financial constraints and communicate these policies and priorities to his agents so that they can take them into account in framing their own objectives and estimates.

There are other significant implications for health. As Sir Samuel Goldman, Second Secretary to the Treasury, put it in an address to the Royal Institute of Public Administration in 1970: 'Policy determination is becoming more and more evidently a matter of choice involving an examination of the priorities of all the components of existing expenditure programmes as well as of new ones in relation to each other and to all the other purposes for which the community requires to use its resources' (22).

He went on to refer approvingly to work going on inside the Government and some local authorities on developing information systems and techniques for clarifying these choices and assessment of priorities. In this he was referring to new techniques of management by objectives and planning–programming–budgeting systems, the application of which to the health service can provide the means whereby health authorities can introduce a management system which focuses attention on results rather than activities, on objective assessments of need rather than expediency, on the future rather than the past.

What needs to be developed in the 1970s is a management system within the NHS which:

1. Requires the central authority and the regional authorities regularly to review the general strategy and priorities in the development of health services, and communicate this strategy to the operational units—the area health authorities.

2. Enables area health authorities to prepare a co-ordinated management plan for the use of budgeted resources to achieve objectives set by the authority after taking into account the needs of the community for health care and the views expressed by the proposed community health councils (3, paragraph 20) and national and regional policies and priorities.

3. Enables an authority to monitor the achievement of its objectives and to take corrective action where necessary by providing an effective system of management information which is both comprehensive and comprehensible and which relates resources used to results achieved.

4. Strengthens line management by holding individual officers accountable for specific results.

Participation

It will be clear that the co-ordination of the entire health authority with its numerous services and varied professional groups, the formulation of policies and the setting of objectives and the management of the available resources is a highly complex task calling for professional managers of great skill and competence. The management of an organization so complex as that of a health authority cannot be undertaken by part-time amateurs in the sense of professional people engaged part-time in administration or members of the public devoting their spare time to voluntary work in 'running health services'. Professional management is obviously a full-time job. The health authority must act as a jury representative of the public, a forum of men and women of sound commonsense to whom the professional management must be broadly answerable for the efficient running of the services. As a recent leading article in *Hospital Management* stated:

To suggest that the Committee or Board should be the ultimate forum to which doctors, nurses (and perhaps some others) should report directly upon top management matters is to put the Committee in the position of a top manager which demonstrably it can never be because

it has not the necessary skill and constitution. It is a group of people and not an individual. It is in session for a fragment of time and not continuously and, though it has dedication, it has not professional responsibility. For these reasons, abundantly clear to the humblest administrative student, the Committee cannot itself be a top manager. It can be the final arbiter upon policy and upon standards of service, but this is very different from continuous expertise and professional responsibility of top management (23).

Just as important, however, as an effective management structure and highly skilled professional management is the effective participation of the 'clients'—the general public—and the 'providers' and 'prescribers' of health services in the decisions of top management. An increasingly articulate population is demanding greater participation in the making of decisions which affect them. Public opinion will no longer tolerate organizations which are authoritarian in outlook and remote from the public they are designed to serve. Means must be found, therefore, of reconciling greater public participation in decisions of health authorities with the management of the increasingly complex organizations which are needed in the last quarter of the twentieth century.

The demand for participation by the health professions in the management of the health services stems perhaps from rather different motives—the desire to protect clinical freedom, distrust of 'laymen' controlling medical services, fear of political interference, to name but three.

The demands of the professions and the public for participation are, to some extent, potentially in conflict and they need to be looked at separately.

PARTICIPATION OF THE PROFESSIONS

The second Green Paper proposed to meet the demand for representation of the professions by providing for professional representation at three different levels of the organization—in the authority itself, district committees, and a statutory committee for family practitioner services. One-third of the members of the area health authority were to consist of 'representatives' appointed by the main health professions—the medical, dental, and nursing professions were singled out specifically. 'The local professions must shoulder their share of responsibility for the management of

the health services in their area which they so largely provide' (2, p. 9). The Consultative Document, however, claimed it to be inappropriate for area health authorities to be composed on this representational basis. There would be professional members on the authorities but they would not be so clearly seen as 'representatives' (3, paragraphs 15–17).

The local doctors, dentists, opticians, and pharmacists would appoint members to a committee for the family practitioner services which would resemble existing executive councils and with which the doctors, dentists, pharmacists, ophthalmic medical practitioners, and opticians would enter into contracts.

There are several problems arising from any proposals for professional representation on managing bodies. In the first place they seem to overlook entirely the anti-hierarchical nature of the organization of the medical and dental professions. We have already mentioned that the chairman of a 'Cogwheel' division or the chairman of a medical executive committee is unable to exercise professional supervision or exert managerial authority over his colleagues. Nor can he be held accountable, either professionally or managerially, by the health authority for the work of his colleagues. Representatives of the medical and dental professions would be in no better position: indeed, they would probably be less effective as *representatives* of their professions than if they were appointed in a personal capacity for the contribution which they could make to the work of the authority because they would have less freedom of action, feeling compelled to refer back to their constituent bodies on any major issue of policy.

Secondly, if the representatives of the professions turn out to be different persons from the chairmen of the local medical committee or the medical executive committee or the chief nursing officer—and there is no reason to suppose that they would be the same—what is the position of the remainder of the health authority when faced with two sources of professional advice and two channels of communication—the representatives of the professions on the authority on the one hand and, on the other, the elected spokesmen for the medical and dental staff and the appointed head of the nursing service (the chief nursing officer)? With whom would they deal if they wanted, for example, to introduce new working hours for nursing staff?

Finally, why limit participation to the 'main health professions'?

There are other professions apart from doctors, dentists, and nurses who work in the health services, not to mention the many other skills and occupations which play a significant role. All who contract with a health authority to provide services should have both the duty and the opportunity to put their knowledge at the disposal of that authority and it would seem illogical and unreasonable that some should be given enhanced status to enable them to press their points of view to the exclusion of others.

If, however, despite these objections it should be decided that the professions must constitute part of the future unified health authority then some of the difficulties could be mitigated if the 'representation' were to be composed of two elements: The professional 'heads' of the main professions *ex-officio* (e.g. the chairmen of the various professional committees and the chief nursing officer) and other nominees of the professions appointed in their personal capacity for the contribution they can make to the management of a health authority.

If the heads of the professional services are to be members of the authority then it could be strongly argued that the head of the professional management should also be a member. Although this has not been traditional in public services in this country it is not unusual in the nationalized industries or in industry generally.[1]

The alternative to this proposal would appear to be that none of the professions should be represented on the authority but that strong professional advisory machinery should be established with the spokesmen for that machinery having the right to attend meetings of the authority.

Whatever the arguments may be for having representatives of the professions on the authority which settles priorities and allocates resources, the same arguments cannot be said to apply to any district committee which the area authority might use. It would seem inappropriate that the professions who provide the services should also supervise them. A more effective method of ensuring that the prescribers and providers of health services participate in day-to-day decisions affecting their work is in the suggestion already made for the management of services by multidisciplinary teams

1. The full-time Chief Executive of New York City Health and Hospitals Corporation is *ex-officio* a member of the Corporation. This practice is not unusual in the USA.

charged with the responsibility of formulating policies and objectives for the furtherance of their particular service.

PARTICIPATION OF THE PUBLIC

The second Green Paper sought to meet the demand for the participation of the public in the running of health services by the proposals that one-third of the members of the area health authority should be appointed by the local authority (2, p .8), and that most area health authorities should appoint district committees, half appointed from the authority itself and the other half drawn from people living or working in the district not on the authority (2, p. 16). The Green Paper suggested also increased involvement of voluntary organizations and increased voluntary activity (2, p. 17).

The Consultative Document, however, appeared to abandon the earlier proposal for district committees (except for 'teaching districts') to be replaced, in a sense, by the community health councils (2, paragraph 20). It could, however, be argued that the size of some area health authorities might still lead to a demand for district committees 'to run the services'. It is, therefore, necessary to rehearse the arguments about the role of such committees.

By their very nature committees are unable actively and continuously to run a service. They can see that others—permanent staff—run the services efficiently and hold them accountable for their performance. They can, in other words, exercise some supervision over the way services are provided. How this supervisory function was exercised would vitally affect the management structure of the organization.

If the area authority delegated *authority* to the district committee the operational staff of the district would become accountable to the district committee for the performance of their functions and the district committee would become accountable to the area authority. Thus, for example, the head of the nursing services in the district would be accountable to the district committee, not to the chief nursing officer of the area authority. If, on the other hand, the district committee had no executive authority delegated to it by the area authority the operational staff would be accountable to the area authority. The district committee would exercise its supervisory function by reporting to the area authority and it

would be for the area authority to take whatever action was necessary.

From a management point of view either alternative is feasible but it is very important that the precise intention should be clearly stated from the outset otherwise the problems of the hospital service of the last twenty years will be repeated, that is the uncertain relationships of house committees to hospital management committees and hospital management committees to regional hospital boards.

There are, of course, other ways in which the public can participate other than by active involvement in the supervision of services. Increased emphasis on voluntary organizations and voluntary activity which has always been an important element in the health services is to be encouraged.

An effective complaints' machinery allied with a health commissioner would provide the means for a larger, if perhaps somewhat negative, participation. Consideration might also be given to the use of the local councils suggested by the Royal Commission on Local Government (24). The Royal Commission saw the key function of the local councils as being to focus opinion about anything that affects the well-being of each community and to bring it to bear on the responsible authorities. Local councils could be just as effective in the area of health services in relation to a health authority as they could be in relation to other services provided by local government. Moreover, by being bodies external to the management of health services they would be less inhibited and there would not be the same tendency for them to become identified with the organization.

However, the Consultative Document appears to be relying upon community health councils for each of the constituent districts of an area health authority to provide for local participation: it is not clear whether these are to be in addition to, or in substitution for, district committees although it is stated that they will not be part of the management structure (2, paragraph 20).

Conclusions

To sum up, we have sought in this paper to trace separately some of the implications for organization and manage-

ment of unifying the administration of the health services at the basic operational level—the point at which services are actually delivered to the patient. We have pointed out that integration of services means more than bringing together the GP services, the local health authority services, and the hospital and specialist services under one roof. We have suggested that the objectives of each of the existing services need to be analysed and services with common objectives integrated, and that because of the number of professions which contribute to the provision of most health services, a multidisciplinary approach to their management is required. We have traced separately the operational services and the supportive services of a unified authority and linked these with top management to construct a model for the organizational structure of the total enterprise.

In discussing the management of health services we have distinguished between the management of skills, the management of services, and general management. We have stressed the importance of establishing an effective management system supported by comprehensive and comprehensible management information. We have supported the view that the complex nature of management of the health services demands professional management of the highest quality.

Finally, we have referred to the demands for participation in the running of health services from the public and the professions and discussed some of the problems inherent in proposals so far made for meeting these demands.

What, then, should be the strategy for the achievement of the objective of unification and integration of health services ? It will be clear that this objective will not be achieved only by the enactment of new statutory provisions. It will need to be prefaced and accompanied by a great deal of careful planning and attention to detail.

The reorganized structure will need to be clearly defined and the functions and relationships of the various parts of the organization unambiguously stated. Although the precise form of organization at the basic operational level will depend upon the social geography and pattern of services locally, the principles which should be followed should be defined centrally and guidelines published. A system for the collection, analysis and presentation of management and clinical information will need to be established

related to the services provided: such a system must be flexible in operation so that it will produce information which is meaningful and useful at various levels of management in the organization; it must also be capable of being used to make valid comparisons over time and between districts. It must therefore be conceived centrally and applied uniformly. From such information and by special research studies quantitative standards of performance can be produced, relating inputs to outputs, inputs to population and outputs to population for each of the main services.

A major effort will be needed in the personnel field. In particular staff will have to be prepared for work in a unified structure, particularly staff who will have management responsibilities. As the National Staff Committee and the National Nursing Staff Committee stated in their observations on the second Green Paper 'the problem of embarking on intensive training is the identification of training or re-training needs since these should be related to the new structure'. They saw the need for a unified central personnel organization as an essential part of a unified service, with the personnel function being discharged within a well-defined and effective stream of general management.

Many of the problems we have touched upon require a great deal of further study. There is, indeed, a general need for more action research into the management of the health services. This is likely to be a continuing need as new medical knowledge and new approaches to organization and management emerge, necessitating changes in the organization and management of services. The management of organizations is in a constant state of evolution. There would be much to be said for the establishment of a central institution—a staff college for the NHS—where such problems could be studied and appropriate solutions sought. Such an institution would be a valuable adjunct to the work of the training institutions concerned with management education and training within the health services.

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Decision-making at the area health authority

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Summary The essential characteristic of medical management is that in the health industry a large part of top management is at the treatment and care level; the actions of the doctor dealing with a situation which of its nature is unquantifiable are more often guide-lines to management policy than vice versa. Policy instructions which come down to doctors from above must harmonize with the scientific observations and value judgements reached daily in contact with the individual patient.

In the first age of medicine the doctor enjoyed indeed a dictatorial role by which the organization of care ran in deference to his every wish. But the increasingly recognized social commitment of the health services as well as the growth of specialization has made impossible the continuance of this role. The changed situation was met for the first twenty years of existence of the NHS by a system of medical advisory committees and house committees which may have been adequate when clinical units included only a small number of consultants but have now been recognized officially as unsuitable to modern requirements.

A new system first proposed in 1967 is based on groups of divisions in which the specialties or groups of specialties can meet and settle their own affairs

as well as offer official advice to higher management. Experience of these so far suggests that they should be used as a very important part of the new organization of the NHS to permit real participation by the practising clinician in management decisions and so harmonize with the essential characteristic of medical business already specified. This divisional system can be so developed that it at once permits participation by all the professions in the decisions of medical management (including professions such as the nursing and technical) and also restores the balance in decision-making between the interests of acute and primary medicine.

The proposed area health authority has a more complex nature than is generally realized, but promises more efficient and more continuous medical care provided the management support necessary to such authorities and to their divisional systems is created. An information system will be required under the responsibility of the new styled 'community physician'. He will be a consultant in his own right and will need to identify and formulate problems of importance to the whole management system and then to present the relevant output in digestible form. He will need the assistance of a new style medical records officer oriented in the future to the development of a much greater expertise in the methods of collecting and storing information. The role of the lay administrator too must be modified so that he can perform more than a purely executive function and can manage the business of the area health authorities and their committees by delegation and co-ordination of all their different elements. A new form of unified personnel machinery will probably be required to provide the necessary leadership to the administrative corps.

The effect of structural change on the efficient management of the NHS is therefore to be judged, in part at any rate, by how far it achieves the participation of the practising clinician in management, how precisely it defines the responsibility both of the managers and of those supporting them, and whether it adopts a realistic timetable for the attainment of change. Finally dramatic improvement cannot be expected from reorganization alone unless at the same time there is an opening up of new resources to this new management.

The characteristic of medical business

The doctor treating his patient has similarities with the production worker in industry; but with the all-important difference, that he works in such unquantifiable and evolving situations that his actions are more often the guide-lines to management policy, than vice versa. The important consequence is not so much that the practising doctor carries more prestige and salary than other members of the staff (something not altogether without parallel if one thinks of the airline pilot): but that in his person a big section of top management is on the shop floor.

Whatever the underlying social policy, a major objective of any health service management today must be to organize the interlocking professional and intellectual skills of 'the doctor on the shop floor' and of all other staff so that they are brought to bear on the patient at the proper time. The integration of an often reluctant clinician into this elaborate pattern of actions has emerged as an important, perhaps the major management problem (1). It involves a relationship between authority and a professional service which has evolved only very slowly in the last hundred years: yet its satisfactory development may be the single most important factor in the provision of a service that is at once humane and efficient. The NHS has naturally been a test-bed for experiment in this field and in the last few years investigation and trial have accelerated. It would be dangerous to reconsider, let alone settle, the future of the health services in Britain without the closest study of our experience so far to establish its lessons and how it should influence plans for administrative reorganization. Indeed, although the relevent issues may not have been formulated until this decade, their origins are by no means recent and are likely to be of fundamental importance to decisions on health service structure.

THE AGE OF MEDICAL CHARISMA

Before the Renaissance when the religious orders first created and organized hospitals as refuges for the destitute sick, the patient looked to his God for cure whilst comforted by such attention as might be found within a religious house or by visits from a

physician, apothecary, or surgeon. But with the decline in monastic orders in Britain and elsewhere, the Crown and later the voluntary association or municipality assumed responsibility for the organization of patient care. Through this secularization of the management, the status and importance of the doctor acquired by natural process some of the mystique of the priest. He became as it were a 'guest' at hospitals and other health institutions with very special prerogatives, one who like 'the man who came to dinner' could regulate the temperature without paying the fuel bills.

This era of medicine saw the doctor enjoying what has been called a 'charismatic role' (2). 'He gave the orders to nurses, administrators and whomever, and in his absence the organization ran in deference to precedents he had established or anticipations of those he would establish' (1). This type of domination grew steadily until its high tide in the first half of this century; it has been characterized by the great doctor making his ward rounds like a colonel inspecting a crack regiment. The vacuum left empty by the decline in religious faith and the monastic orders had been filled by the archpriest-physician.

THE POWER VACUUM

The growth of technology has, however, disturbed again the stability of patient care and created a vacuum, which is central to the theme of this essay. The charismatic role cannot endure as a principle of organization. But in any case the growth of medical science itself, by restricting the boundaries of the individual doctor's competence, has diminished his global wisdom with the consequence that his particular skill appears less magical, narrower, and more technical even in the diminishing number of cases when he is still responsible for the whole patient and does not have to share his burden with other colleagues and professions. Moreover this growth of specialization has created complex relationships within the hospital the solution of which clearly requires administrative skill rather than subjective inspiration.

From their beginning hospitals have had a social as well as a purely medical purpose. As they have grown and become more like large 'utilities' their accountability to the public has been increasingly demanded. Despite the growing recognition of a 'social commitment' such as was formalized for the hospital services in

Britain by the 1946 Act, the realization that the individual doctor has become accountable to the public as well as to himself has been slow to crystallize. Yet once the idea of medical resources being derived and deployed on a national basis is conceded, the individual doctor can no longer remain the sole arbiter of the care available to the public. Indeed amongst other factors which directly affect the doctor's professional practice perhaps the most significant is the demand for a more sophisticated service from a more discerning public, at once better educated at school and more informed through the mass media.

The growth therefore of technology as of the concept of accountability has ended the age of medical charisma as a principle of leadership. The development of these patterns thus summarily described has been by no means even. Some of the old style still undoubtedly survives (3). But even where it has long been modified, it seems to be almost universally true that no clear alternative philosophy of leadership has emerged to fill the new vacuum. In times of crisis the absence of any person to hold the 'buck' has been all too clearly revealed. In Britain it is particularly convenient, in order to set the context for this problem of today, to review in a few words the pattern since the creation of the NHS.

THE MEDICAL ADVISORY SYSTEM

With the creation of the NHS its three parts were intended to be managed at a local level in three very distinct ways. Public health and the various personal services placed in the competence of local authorities were subject to a professionally hierarchic system working within local democracy. General practice was left almost without means of co-ordination or policy-formation although the executive councils were created to deal with the barest issues of appointment or misconduct. The freezing of these two parts of the health services in a pattern close to that existing pre-1948 has been damaging to their individual development as well as to the total service offered, since neither has enjoyed a source of planning and finance, or of research and education, equal to modern needs and both have consequently suffered neglect in comparison with the hospital service. It is true that the public health services have benefited from the flexibility and incentive springing from local interest and finance but this has not made up for the lack of unified

resources and guidance. It is true that general practice still remains the lynchpin of the NHS, the first support of the patient and the vital mechanism to prevent wasteful use of the specialist services: but it has sometimes come under great strain and is still at risk. Other essays deal with these problems but two observations are useful here. The omission of a structure for unified planning can be disastrous to the interests of any one part as well as to the welfare of the whole. In fact, if one wishes to study the lessons of over twenty years' management development in the NHS, it is on the hospital service one must concentrate in the hope that the conclusions may be valid on a wider front.

The hospitals were given by the National Health Service Act a more deliberate structure designed to permit policy leadership at regional level and somewhat indefinitively also at the level of a management group of hospitals; the hospital itself was only to be permitted a part in simple executive decisions. Such a system presupposes the formation of stable professional advice from within the service. At the regional level, with which here we are not principally concerned, this was to be provided by consultant advisors and specialist committees; at the group and hospital level it was to come from medical advisory committees and staff committees, organized according to local wishes but usually open to all consultant but not to junior medical staff. Official circulars at the time and later explanatory memoranda went so far as to prescribe very embracing objectives for their deliberations, with the explicit implication that all but the most routine management matters were properly in the province of this machinery (5, 6).

Few studies have ever been made of the operation of this system: and these have demonstrated variations and inadequacies (6, 7). In the medical advisory committees specific specialities went often unrepresented, including that of general practice; in a substantial minority the administrative side took no part. The range of experience available was therefore seriously restricted. In the hospital staff committees on the other hand the specialties were better represented but interests outside the hospital were usually excluded. Despite this disparity in composition, there was small distinction in role between the two sorts of committee and usually one or the other flourished but not both together. The business transacted often omitted important sections of what had been prescribed as pertinent, for instance, hospital costs. Some committees seem to

have taken the view that policy was an area in which the regional hospital board could alone take effective action. A conclusion drawn was that often these committees had changed little since their origin in the pre-1948 voluntary hospital. They were often conservative in their approach to their business and their members on the whole were not willing to establish a close business relationship with the governing body of the hospital, or openly contribute to the efficient management of the hospital.

It is not therefore surprising that the English and Welsh Joint Working party appointed in 1966 'to consider what developments in the hospital service are desirable in order to promote improved efficiency in the organization of medical work' found that 'the present medical advisory machinery is not suitable in nature and structure to meet modern requirements' (8). The Scottish Joint Working Party which was similarly appointed came to a very similar conclusion, namely, that a better system of clinical organization was needed (9). It is perhaps unfortunate that until now there has been no authoritative analysis of the causes of the failure of the original system for it might have been useful to a solution of the main issue of how the clinician should be involved in the management of the service as a whole, and therefore to the design of a new organization. According to some sources, the medical advisory committees worked effectively in the early years of the NHS when there was only a small number of consultants in each management unit, and the system can still be effective today where such circumstances still exist.

One aspect of this story merits individual attention. The advisory system failed to develop integrated planning for the different parts of the NHS; it may even have hardened the pre-existing separation and discontinuity of the various services. The new system now in development—the divisional system—began with the better co-ordination of the whole service as one of its avowed aims.

THE DIVISIONAL OR 'COGWHEEL' SYSTEM

In their conclusions both working parties proposed as their main recommendation that there should be further discussion about, and actual experiment with, a new system by which consultants would be grouped in specialty 'divisions' which would both run their own joint business and formulate professional advice to manage-

ment. The Scottish Working Party laid particular emphasis on the concurrent need for stepping up operational research and both Working Parties emphasized the need for management training. Both also provided, in somewhat different terms, for a second-tier committee to co-ordinate matters involving more than one division and also the advice tendered to higher management.

There is great urgency in assessing developments since these recommendations were made. Before the establishment of the new system of area health authorities, it is of vital importance to establish the means by which they will acquire professional advice on the management of the service and by which policy decisions can be communicated and intelligently executed. It has been already suggested that there is at least a partial vacuum in the management of major parts of the health service at the present time; it has been well established that the respective roles and responsibilities of governing boards, committees, and individual consultants are insufficiently defined and that many of the more publicized failures of the existing system are due to this situation. It is remarkable that as recently as 1969 a 'Pink circular' on this very subject left the position as confused as before (10). It would be truly disastrous if any new reform carried forward the existing overlaps or gaps between responsibilities.

At a quantitative level, according to a government review in May 1970, 131 hospitals groups had developed a form of divisional structure, 112 being in non-teaching groups (11).

An attempt has also been made recently to make a qualitative study of the development of the 'divisional' system and a number of useful conclusions have emerged (12). Those most vital to the present essay fall under four heads:

1. The continuing uncertainty as to the nature of the clinicians' responsibility for management including budgetary policy, together with the need to provide him with an incentive to participate.

2. The lack of any means to process and use all the information already available in the health service in a way that is of value to the clinician in considering policy.

3. The innate but not necessarily insuperable difficulties of a profession such as the medical one in participating in groups in management decisions.

4. The unsuitablity by way of both education and objective of

many of the existing lay and medically qualified administrators to provide the requisite support to a modern and integrated management structure.

Of these factors, the last three are problems calling for a place in any proper plan for reorganization: but the first is central to the framework. Any organization aimed at optimum efficiency must be built on an understanding of the phenomenon that in medicine top management is very largely on the shop floor.

Traditionally the clinician defined administrative management in the health services by exclusion, that is anything not to do with direct patient care, medical education, or research. Although, however, pleas are still to be heard for a system in which the doctor devotes his whole time to tending his patients and trained managers provide all the support required without bothering him—which sounds remarkably like a nostalgic cry for the return of the charisma—it has been shown that even at the inception of the NHS there was wide agreement by doctors that they must give some of their time to considering questions which fall within the traditional definition of management. And more recently in the English and Scottish Joint Working Party reports there was unanimous agreement that the efficient management of the health service depended on a major role for the clinician in decisions upon managerial policy. This growing realization that management and medicine are a continuum without natural divisions has not as yet, however, been accompanied by clarity on some closely related matters; the fact that a power vacuum exists and a very strong candidate to fill it is the clinician in a new role of health service manager, and the necessity for him in consequence to wear two hats at different times and places, a quick-change act which requires practise but which is no impossibility. Whilst he must still pursue his traditional role of providing his patient with the maximum service possible in the circumstance, the doctor in his role of planner and policymaker must be prepared to consider priorities and decisions which may affect the facilities available to him for patient care. However, if a clinician accepts a responsibility which is to him often a distasteful chore, he must, as an incentive to run with it, truly participate in decisions on policy and finance. He must have a major role in area health authorities even though this may require major changes in costing procedures and budgetary control.

This, however, does not imply a syndicalist authority at area level. The health services, as has been already said, have a social as well as a medical purpose, and also make up a very large public utility, which should be accountable on all three grounds, requiring therefore participation by informed members of the public and of the business world so as to achieve a reasonable balance of interest between the professional and his clientele. Yet medicine is a profession, where the results cannot be submitted, certainly in Britain, to any profit and loss procedure or be judged purely on objective criteria. Its system of government has to be suited to this special situation in which the production workers, the doctors, cannot be expected to accept policy instructions unless they harmonize with the scientific observations and value judgements reached daily in contact with the individual patient.

The recent appraisal has shown that the divisional system, if it is developed and improved, may provide a means by which the professional worker can participate in policymaking and management without deserting his clinical responsibilities, through membership of the divisional system and eligibility for the Medical Executive Committee. There are already signs that efficiency improves when the clinician is personally involved through real responsibility over financial allocations. The system has worked best, and the anticipated benefit flowed most quickly, where for instance the Medical Executive Committee has participated in the decisions of the board of governors, or the new chairmen have been associated with the policy planning of regional hospital boards, or day-to-day decisions have been settled between the administration and a subcommittee of the Medical Executive Committee.

So far, however, a divisional system as it has developed, has only occasionally provided properly for participation of the other professional workers who are equally concerned in the same relationship with the individual patient, or indeed for doctors and others working outside the hospital away from the field of acute medicine. But the divisional structure can be extended both to include the nursing and other professions and to go beyond its present hospital application although it is not yet clear whether the other professions covering the nursing and technical services, being more hierarchical in organization, require their own divisions or whether their participation would be better achieved within the various clinical divisions. This is an issue where perhaps flexibility

may not be damaging to efficiency. Although therefore the medical view must carry a great deal of weight within any policymaking system this does not therefore imply that the doctor requires any hierarchical superiority over the other professions.

However, hazy the method, it has been accepted doctrine since the establishment of the NHS that management responsibility is delegated from the political centre to regions. There is no evidence that any other doctrine should be preferred in Britain where the centre is too far from the periphery to be able effectively to dominate such a complex and all-embracing organization. Other essays have described some of the proper functions of the centre: research and development, evolving and maintaining standards of education and performance, manpower and pay policy, information systems, and the formulation of a national strategy for resources. But our assumption is that management policy should remain delegated, and that the new organization must hinge on the divisional system, which, given full support, can carry—through the executive committees interfacing with area health authorities—a very full burden of responsibility not only for policy but for execution.

Such a means of governing the health services can fill the existing power vacuum and provide the framework for the definition of accountability at each level of authority. It is a system which would seem likely to be acceptable to the medical profession for according to some reports there has often been considerable enthusiasm for it at the grass roots. It is also a system which would have a good chance of providing a firm but democratic base for good management, providing always that within the new organization it receives management support by way of planning assistance, a secretariat, and an information service, and is also united with the administrative structure of the nursing and technical services.

The complex nature of an area health authority

Membership of the new authorities at regional and area level, must, as already suggested, be so constituted that it involves the working clinician in their decisions and in so doing gives an equal voice to both acute and primary medicine; it must also provide that informed members of the public and business

world can scrutinize decisions in the light of the social commitment of the NHS and other institutions. It is impossible as yet either nationally or locally to reach any justifiable balance-sheet weighing probable under-investment in some fields of medical care against probable waste or diversion of resources away from basic priorities in others. If a high percentage of management decisions are in future made at area level by authorities constituted on these principles, and properly supported with management services, a synthesis may then make possible more rational investment decisions at the national level. No one, however, pretends that all authorities will be equally efficient and in another essay an audit of health care is proposed as the essential safeguard to a real decentralization of management.

Medical, nursing, and paramedical services and advice to the area authority will come from five main local sources: (1) hospital practice, (2) community services, (3) general practice, (4) nursing care in the community and in hospital, and (5) paramedical services including those provided by laboratory workers, physiotherapists, radiographers, pharmacists, etc.

The importance of including the last category is obvious today, the approach to clinical care being now so clearly multidisciplinary that their inclusion is essential. In effect while the clinician either working in hospital or outside hospital may be the head of the team, each part of the team is as important as the other. While historically many of these services have been based on the hospital, this should not be seen to imply that the hospital has first claim on their services. They should be viewed as giving an equal service to all who are in need. Service and advice will also come from regional level or from the central department, each having access to advisory machinery of one sort or another.

The machinery for obtaining advice will depend upon an elaboration of the divisional organization. The effectiveness of such an organization may depend on the size of the area health authority. The machinery will have to be modified either for the very large or the very small area and there is ample room for experiment. It is unlikely that a single model will be satisfactory for all area health authorities.

The complexity of an authority becomes apparent when its make-up is examined in more detail. In one possible area of 500,000 population it is likely that there would be two districts

having 525 doctors and 2,459 nurses. Of these, 254 are hospital doctors, 271 are GPs, and 30 are local authority doctors. Of the nurses 2,256 work in hospitals and 203 work for the local authority. The area health authority is likely to have two or more districts, and each of these to have an executive committee formed from divisions in a very similar way to that described in the 'Cogwheel' Report (8). But in addition there could be included a division each for general medical and dental practice: a division of nursing and one for the paramedical services. In many districts the number of GPs working will exceed 150 and it is clear that some machinery, such as a division of general practice based on the local medical committee, must be devised for ensuring their full co-operation and involvement.

There would be elections to serve on each executive committee which would elect its own chairman. He need not necessarily be a doctor, but should be a person who would have the confidence of all those working in the divisions and executive committee. The functions of the divisions and executive committee would include the management of the resources under their control and the provision of a service to the district. The chairman and probably certain other members of the executive committee would give advice following on its deliberations to management and participate in its responsibilities.

In order to co-ordinate the advice of each executive committee reports of proposed developments would be communicated to an area committee at area health authority level. It is this multidisciplinary committee at area health authority that would co-ordinate all the advice from the various districts in the area health authority. This is necessary in that there may be occasions when policy might differ in each of the districts and a co-ordinated plan for the area as a whole might need to be worked out.

Once the complexities of this organization have been faced it will make it possible to develop a continuum of health care throughout. Much, indeed a high percentage, of health care is provided outside the hospital service, in its elementary form by a patient visiting the doctor's surgery, or when the doctor visits the patient in his own home. Definitive treatment can be carried out at this stage and if necessary the patient can remain at home in bed. The patient, if he cannot remain at home, can receive his care in a place where he can stay a number of days under the care of the

GP. Traditionally this has been known as the hospital but in this context the GP could care for the patient utilizing the resources both nursing and technical that the hospital provides. On the other hand, at selected places there will be a centre where the special technological services of consultants and others are available for that comparatively small percentage of patients who require their special skill and expertise. Moreover, in order to make best use of equipment provided, it is likely that 'community physician' and other management services in support would have to be based on these highly sophisticated centres for it will be here that laboratory and computer facilities will be readily available.

From this it is possible to postulate the eventual demise of the word 'hospital'. It has a secular tinge which might not be the best background against which the unification of the NHS can be planned. In today's context hospital stay is only one (and an expensive one at that) phase in the continuum of health care. From this also it could be postulated that the community hospital, staffed by GPs with consultant out-patient clinics, will eventually be the heir of the cottage hospital. In more concentrated and larger centres of population the same community hospital would exist but grafted on to it would be the highly technological and sophisticated centre staffed by consultants. At this centre the GP could have access to all the facilities in the care of patients under his care.

The management support necessary to area health authorities and divisional systems

AN INFORMATION SYSTEM

The requirements of a management information system are dissected in another essay. It is only necessary here to stress that the proposed management system cannot operate without information presented to it in usable form. It is indeed an unanswered question how the health services have been managed so far without such a system. By some it has been claimed, if not demonstrated, that efficient systems are already operating at regional level and so enable sensible policies to be handed down to groups and individual

hospitals. But none dispute that there is no such capability at the lower level where area authorities would operate.

The working of an efficient system does not depend only or even principally upon the collection of valid data, which is difficult enough and has according to many never yet been achieved for management purposes on a regional or national scale. What is yet more difficult but vital is that the data can be *used* in an effective manner. This demands not only the processing equipment and technical knowhow but the ability to identify and formulate problems of importance to the would-be user and then to present the relevant output in digestible form. Few today have this skill: its creation will require training and experiment and the resources and time involved must surely be a significant feature in the planning for the introduction of any new administrative structure. It is, however, not necessarily true that existing resources are unavailable for these new roles provided that they are directed and trained in new directions.

The cynic may declare that the identification of a new medical information role and the redundancy of the old-style medical officer of health have been brought together by history very conveniently. But there can be more to this match than historical accident, a description more truly applicable to the responsibility, now fading, of the Public Health Department for personal health services. Skill in epidemiology and statistics were in the original nature of the Medical Officer of Health and are still a large part of the content of his special training. Such disciplines go well with the other more recent skills of information processing which together are most likely to bridge the gap between the clinician and the data bank, and to support health service planning for a given population.

THE FUNCTION OF THE LAY ADMINISTRATOR

A blunt observation made about the operation of the divisional system is that it is impeded by the poor quality of the existing administration: even at a centre enjoying a high quality of management 'the administrator has to run to keep up'. Elsewhere within the British constitutional system the administrator has enjoyed a high reputation; it is also true that there has been elsewhere a very selective system of recruitment and much attention paid from time

to time to the analysis of function and the requirements of training (13). It is perhaps surprising that a new organization such as was the NHS in 1948, was expected to function without these benefits and that only in comparatively recent times has the beginning of a policy and staff system emerged (14, 15). The need for further major development in this field is discussed in another essay. Obviously a different policy for selection and training may be needed. But perhaps there is an equal requirement for a reorientation of the administrator's role; in the past there may have been too much emphasis on an executive skill and too little on the secretariat or 'administrative class' (13) function which can provide both the engines and the steering provided the captain sets the course. The failure so far to produce enough administrative staff who instinctively manage the business of an 'authority' by delegation and co-ordination is the origin of the common but false contest for over-all authority between medical and lay administrators as well as of calls for one 'general manager' at area level. That a reorientation of function will improve the administrator's efficiency is already indicated by the way the work of some group secretaries has been eased by the introduction of a divisional system. It may be doubted, however, if a fundamental change will be achieved without the establishment of a unified personnel machinery providing leadership and direction to the administrative corps as well as much better opportunities through secondment or transfer to improve experience and acquire a balance of knowledge.

At the apex of the organization framework the very existence of such machinery might also encourage the Civil Service itself away from its central remoteness from the health services which the detached observer also sees as a block to innovation and progress (16).

THE 'COMMUNITY PHYSICIAN'

The title of 'community physician' though fashionable can be both indeterminate and misleading. But no better title has yet been established. By it is meant the medically qualified professional who after a basic clinical postgraduate training has also acquired a qualification enabling him to specialize in planning the health services and the supporting information system.

The development of this role is a relatively new one and the view must be taken that its advent is as a result of an instinctive endeavour to see that all the resources of the NHS and indeed of the social services are brought to bear to solve the needs of those requiring them. In a sense this responsibility has grown from the impossibility of having a free market in medicine. Where the public cannot make an informed choice at the point of consumption there is a great responsibility for those providing the service to determine the extent and quality of the goods offered only after the most careful formulation of the options and the best possible decision on priorities; such a responsibility justifies special support (some would say in market research) for those participating in management decisions.

In the past, the responsibility for services has been vertical: on the hospital side from the individual hospital to the management committee, to the board, and finally to the Department. By the same token, the Department has had an oversight of local health authorities for the community services, and the general practitioners through the executive councils have had a responsibility to a central department. It was the duty of the Minister to ensure integration and establish priorities, but from a practical point of view this was insufficiently effective. It is this that has led to the demand for an integration of services at the patient's bedside. The 'community physician', knowledgeable as it were over a horizontal band of activity—hospital, community services, GP services—still at local level but covering all these disciplines, will be able to develop a knowledge over all these services required by the population of his area. It is a job potentially of equal importance to that of the most distinguished clinician and should attract and be open to the best of doctors.

The implications of this role make a powerful case that at district level he must be a consultant in his own right and it is likely that in an area there will be anything up to ten or twelve doctors not necessarily all of consultant status working in this field. In this way a division of social medicine might be formed with the opportunity of electing its own chairman and of participating in elections to the executive committee. It would be at this point that the main link with the social services might be formed with representatives from these important supporting services being invited as full members of the division. It would be at area

level that a chief administrative medical officer, who is likely to be recruited from the ranks of the 'community physicians' would be located. He would have in support administrative medical officers (very similar to the PASMO posts on the staff of regional hospital boards at the present time). Each of these might well have a geographic as well as a functional responsibility. On a functional basis he would be responsible to the CAMO for the area as a whole, for example, through a particular interest and expertise in the application of computers in medicine. He might also have a geographic responsibility for certain duties at district level in which case he could become a part-time member of some of the divisions including, of course, that of social medicine. A medical officer trainee of senior registrar status would also be on the staff of the CAMO.

THE MEDICAL RECORDS OFFICER

'Area Health Boards only slowly realized the importance of converting into system operators the records officers whose unique and comprehensive knowledge of record management ideally suited them for the task' (17). Whimsy concealed perhaps the foresight in this paraphrase from a speculative essay of some years ago, but it is a useful reminder that the NHS has already created over its first two decades a vast store of information and an accumulation of detailed experience of record management. Despite these advantages, it has not yet provided an efficient information system to those managing either patients or the organization; its growth has been based on precedent rather than plan except in rare individual instances. This lack of policy direction may be in part due to the variegated distribution of ultimate control (18) and the fact that the managerial aspect of records officers' duties has been sacrificed to the minutiae of day-to-day routine (19).

The arrival of the computer has, however, set off new thinking about medical records. Whereas stored information previously developed massively but by steady marginal changes which were relatively inexpensive and easy to accommodate physically and psychologically, the computer imposes such bounding expenditure and such dislocation that it has obtruded the question 'what is the use and value of each item of information stored?' A few special studies have started and more are needed to seek and clarify the

answers. Upon these must depend the career and function of records officers in the future.

It is the same studies and the same direction of research and development which should also illuminate that part of the 'community physician's' function which concerns information processing. It is already clear that it will be necessary clearly to delineate the respective roles of the 'community physician' and medical records officer in the information field. In broad terms the former might concentrate on the uses of information; and the latter on collecting and storing it. So far too little attention has been given to these subjects with the result that medical and nursing manpower is very probably being wasted in purposeless or repetitive record writing.

Strategy and phasing

The purpose of our essay has been to set out certain issues of principle and certain facts against which the adequacy of the proposals for a change in the structure of the NHS can be judged. It would seem not unreasonable to conclude that the virtues of the NHS have been due to certain strategic decisions which were taken at its outset, and its failures due to indecision upon the responsibility for its management at all levels as well as a lack of subsequent strategic direction. New proposals therefore, are to be judged mainly on whether strategic direction is improved and the management structure better defined.

The basic theme of our essay has been the imperative need to weld the clinician into health service management as a major source of moral and intellectual energy as of professional knowhow. But it would be dishonest to lay down such a claim without acknowledging a recent observation made by clinicians themselves, that so far a major obstacle to their participating in management decisions has been their suspicions not so much of politicians and administrators as of each other. This human characteristic, accentuated perhaps by the traditionally individualist nature of the medical profession, has to be taken into account. There are ways to meet the problem; the assignment of management duties only to persons whose formal rank and professional qualifications are sufficient to command respect (20) or the provision of elections

(13). The former has the disadvantage that it can be a recipe for selecting the more conservative and can cause friction, for instance in a teaching hospital area, where such criteria may be difficult to apply. The latter method has been claimed in at least one major centre to have achieved success in its first trial period. It has substituted 'cabinet responsibility' for sapiential authority in achieving the acceptance of decisions where unanimity of opinion was unobtainable. Whether or not this is the best procedure, the medical profession itself is likely to decide rapidly if the political decision is taken that it shall participate substantially in management. A major benefit of the divisional structure is that it has put clinicians in better communication not only with their peers but with their junior staff: in such a system weak leadership is unlikely to be tolerated.

At the level of the area health authority or its present equivalent it is remarkable how existing difficulties are seen to stem again and again from the lack of definition of function, whether of a clinician in his management role, of the medical administrator, of the secretary or of the records officer. None of them can work efficiently nor can a policy for recruitment and training be sensibly planned without precision on the career objectives. On some of these there has already been much talk and experiment and further delay may not contribute anything to the better solution of the different options open, and it is therefore time for political decision from the centre. New patterns for the supporting management services have been suggested, based on the assumption that a major strategic purpose will continue to be the integration of the various parts of the health service. However it would be a mistake to assume that these new patterns can be formulated in detail from the centre or may not vary in different localities. Management policy must be largely settled at the periphery provided only that the strategic aim of integration is safeguarded by, amongst other measures, a fair balance within each authority between the interests of acute and primary medicine. Preservation of the old 'executive council' machinery, particularly in financial matters, is likely to maintain the status of the GP as the 'poor relation of the medical profession', in every sense of the phrase, since his participation in decisions on policy will be both tenuous and difficult.

Voices from each of these wings of medicine have often called for the opportunity to run their own affairs. They can within the

framework here proposed be given just this challenge and provided that they are also given the tools and support required for the successful formulation of policy and monitoring of its implementation, it will be a fair challenge. There are many, amongst them often those nearest to the problem, who doubt whether the GP or the 'medical administrator'—so often regarded by their colleagues as below the salt—can in a short period rise to such new responsibilities and power. Time and faith will certainly both be required for the transition. But if after all the doctor cannot adjust to it then he will eventually cede authority to the lay manager.

There are other problems mentioned in our essay which it might be unwise to attempt to resolve too quickly since they may require concentrated study. An example is the information system required for an area health authority. The important thing in this instance is the determination to concentrate a major effort upon a practical solution. It may be that much that is now obscure about the supporting services required for the area health authorities will be clarified more quickly once their members as well as their officials are made accountable for establishing and attaining policy objectives.

It remains debatable how much organizational change can achieve in itself without the injection of new resources. Certainly without them no claims should be made or expectations raised of any short-term or dramatic improvements in the existing standards of the NHS. Ultimately proposals for a new organization at the level of the 'area health authority' are to be judged on the three counts; whether they clearly define responsibilities, adopt a realistic timetable for the attainment of change and open up new resources to the new management.

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Information for area health planning

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Information for area health planning

Summary An absolute requirement of a health service, however it is organized, is to develop an information system. The proposed reorganization of the health services structure in Britain will not automatically remedy existing information defects but does provide the opportunity to reconsider how any system should be constituted. This paper looks specifically at what is required for the new area health authorities and after listing the other functions for which data is required concentrates on the requirements for *planning purposes*. The defects of existing data are considered, and in the light of these, improvements for the future suggested.

Planning is defined as the 'process of deciding in what respects the future should be better than the present; what changes are necessary to bring about improvement, and how the changes can be implemented'. The process can be analysed in a series of different kinds of decision-making—about the ideal, the longer-term objective, the more immediate target, the allocation of resources, the detailed implementation, and finally follow-up and evaluation. All these types of decisions are necessary in the planning process, although it is stressed that in the real world situation it may not be practicable to consider them in this strictly logical order. The

example of planning for the treatment of hypertension is taken to illustrate the different sorts of information necessary to aid decision-making at the various stages. The example suggests three main categories of data needed for health planning at an area level. These three categories of information, on Population, Resources, and Need and Demand, are then discussed in greater detail.

POPULATION

Data about the density of population and its socio-demographic composition will provide some indicators of need. Information of this sort is collected in the system of censuses and vital registration, organized nationally by the Office of Population Censuses and Surveys (OPCS). Some problems of this data are identified, including that of the periodic nature of census information which may be felt particularly acutely in rapidly developing areas. The need for standardization (in collaboration with the OPCS) of the use of population projection at area level is also discussed. The interpretation of data collected and analysed by the OPCS should be the responsibility of the area health authority's 'community medicine team'. The definition of this term is considered. In addition there should be a system for the collection of data about environmental matters such as pollution, migration, industry, transport, housing, education and social services, operated nationally by, for example, the Central Statistical Office and locally by, for example, the planning departments of local authorities and then made available to area health authorities.

RESOURCES

The limitations of existing data on resources are considered. It is recommended that area health authorities should be responsible for collecting data about resources other than those provided on a regional basis. The data should be collected for both statutory and voluntary agencies and include details of the responsibility for and organization of services and organizational structure and decision-making. In addition, information is to be collected on manpower and training, buildings and equipment, and the sources of capital and revenue financing.

NEED AND DEMAND

Data is already collected on the utilization of all services, the most advanced system being Hospital Activity Analysis. However, there are inadequacies in existing information mainly due to a lack of standardization in the types of data collected and in area organization; and variations in methods of population projection. The information which should be collected on the utilization of all agencies is classified and defined. A definition of need for health care is given. There is a consideration of the reasons for need not always being met and there is a discussion of the ways in which the level of unmet need can be assessed.

The cost of introducing such an information system will be considerable but effectively reduced if carried out by well-trained staff. It can be set off against a more effective and less wasteful health service.

Introduction

In recent years a great deal of thought has been given to organizational structures not only in the health services but also in social and local government services. Clearly the structure of the health services is of great importance in aiding efficiency and there is no doubt that the present tripartite system has hampered progress in several directions: but care must be taken to ensure that organizational issues are not overemphasized at the expense of detailed discussion of the functions these organizations need to perform.

One of these functions will be, under any organizational structure, to develop an information system to provide data about health needs and the workings of the health services. One of the purposes for which this system should provide data is health planning and this field provides an example of the dangers of possible over-concentration on organizational issues.

One of the basic arguments for unification of health services is that the present divided structure impedes joint planning of

hospital, general practice, and other community services. The difficulties are demonstrated in the Hospital Plan (1, 2) in which provision norms take into account neither the interrelationships between the various parts of the NHS nor the wide issue of the socio-economic factors which characterize the area and affect the need and demand for medical care. This drawback is recognized in the Plans, the basic reason for the omissions being lack of data from which to make estimates of these effects. Part of this lack can be blamed on the organizational structure, since some data, in particular population data, which were available could not be applied to the health plans as the catchment areas of the services are not coterminous and, in some cases, not clearly defined. In addition, the divided organizational structure does not encourage the development of integrated data systems.

However, there are defects in the type of data collected and analysed which would not be automatically remedied in a unified structure. In other words, reorganization of the health services will not solve all the problems, it will only make the solution of some of them much easier.

Therefore, now that it seems probable that a unified structure will be introduced, it is important to grasp the opportunity of exploring in detail how an information system for an area health authority should be set up; the types of information required for such a system; and the levels of responsibility for the collection, analysis, and interpretation of the data. This paper attempts to do this and looks first at the inadequacies of the existing systems; then attempts to set out the essential elements of the ideal information system.

The most important point to stress at the outset is that no information system can be thought out in abstract but must be related first and foremost to the need for data in the performance of area health authority functions. No data should just be routinely collected: there must be a clear understanding of exactly where and in what form they are required. From this point follows an equally important one. Clearly needs change over time and the system must be flexible enough to adapt to this and those organizing it must be prepared to stop collecting data which has become redundant and to introduce new data as it becomes important.

To attempt to consider in detail the information requirements of all area health functions is not possible in a single paper. Therefore,

attention will be focused on the needs for data in planning and the ways in which these can be met. In order to place this central concern in its context, however, it is important to mention some of the other functions for which data are required.

These include:

1. *Individual treatment of each patient.* To provide information on which to base diagnosis and treatment, and in particular to ensure continuity of care between different personnel and services.

2. *Management and administration.* Information is required to administer and monitor daily activities in the health services and the quantity and quality of the services provided. This is necessary to run the services and keep staff (and those outside the services whose work complements that of health) informed of progress and difficulties.

3. *Surveillance.* General surveillance of the population of the area is needed to detect changes in the pattern of disease in order that preventive and curative measures can be introduced or expanded quickly to meet these changes. The importance of this is particularly well demonstrated in the case of infectious disease epidemics.

4. *Research.* Data will be needed as a base for clinical, epidemiological, and health services research.

5. *Legal requirements.* Data are required giving details of, for example, DDA (Dangerous Drugs Act) drugs prescribed and received; cause of death on death certificates.

Many of the data required will be similar for the various functions but there will be differences, and those responsible for providing information must try and mesh the various needs together to form an integrated system.

Data needs for planning

In a recent paper (3) concern is expressed about the need to reconsider the general approach to the planning process in the health services. The term 'planning' is used to refer to 'the process of deciding in what respects the future should be better than the present; what changes are necessary to bring about the improvement, and how these changes can be implemented'.

Planning is seen to be concerned primarily with the creation and

implementation of policies for the best use of facilities, rather than just the provision of these facilities and the allocation of material resources. The process is considered to be an on-going one in which there is continuous communication between all who participate, that is, the planners, research workers, and providers and users of the services. In other words, 'planning' cannot be a detached exercise in making plans. In addition, the process must be one which is flexible enough to respond to new opportunities and which permits examination of a full range of options in deciding what to do about specific health problems. Yet, at the same time, there must be concern to reduce uncertainties about the future as much as possible.

Included in this paper is a general discussion of the levels of planning required in the health services and it is felt that at area level the main concern of planning is provision for the more common acute and chronic conditions. A framework is then proposed into which to place the several kinds of decision-making which are involved in the planning process. The kinds of decisions are seen as: consideration of the ideal future; the setting of an objective (not attainable in the planning period, but pointing the direction of progress); a target (attainable in the planning period); the allocation of resources; the development and implementation of a programme; follow-up and evaluation. Clearly, different sorts of information are necessary to aid decision-making at the various stages and this framework can be used here to illustrate the types of data needs for health planning at an area level. It should be emphasized that the ordering of the decisions outlined above is logical but not always practical in the real world and, although there are strong interrelations between them, each type of decision is necessary.

In theory, an ideal can be stated *a priori*, but in practice suitable 'ideals' will become apparent from a general knowledge of the current situation. That is, to take example, it would not seem very sensible to have as an ideal in this country 'to end all infant tuberculosis deaths' as this has virtually been achieved. To set an objective more specific data is required. In considering the type of objectives available evidence will be used from general epidemiological research indicating, for example, causative factors in disease (the objectives would then be concerned with reducing these factors); or the most suitable timing and methods of treatment for

particular groups of people (the objectives would then be concerned with implementing these methods). However, the individual objectives chosen for the area will depend on knowledge of the local situation.

Setting a target involves specifying numbers to indicate how far along the path to the objective it is hoped to go during the planning period, for example, by how much it is hoped to reduce air pollution by 1980. As with the objective, this decision will require a mixture of information. Epidemiological evidence should be used to establish the level of incidence and prevalence of the disease in question or to give some idea of the effects of a new form of treatment. But the precise numbers involved must be calculated for each individual area with locally collected data. For example, if the number of people with a high risk of developing (or already suffering from) a particular disease needs to be calculated, the first requirement would be detailed data on the population structure in order that the relevant age/sex group may be isolated. In addition, details of the extent of the personal and social characteristics known to be related to the disease (for example, overweight, poor housing conditions) should be known. In other words, other data indicating the presence of probable need for medical care would be required.

Closely linked with the decision on the target will be the decision on optimum resource allocation—for the target must be feasible in terms of the resources available, and the resources available must be used in such a way that the target is reached at the least cost. Clearly here detailed area-specific information on all resources—manpower, money, and buildings—are required. Also data on the present utilization of all services will be required to know how much of the need is currently being met and therefore what additional (or different) resources will have to be used; or alternatively what effect a change in treatment policies will have on the rest of the services. Similarly, area data will be used to convert decisions about resource allocation into a specific building programme and operational policies to ensure that targets are reached.

Finally, follow-up and evaluation will again require some area-specific data collected routinely, but the information system must be flexible enough to allow for *ad-hoc* studies possibly carried out by outside research teams.

Planning for the treatment of hypertension provides a good example of this process. The ideal is to prevent all morbidity and

mortality related to high blood pressure. The objective is to provide optimum treatment for all hypertensives whether they are already known to the health services or have yet to be identified. The decision to set this objective would be influenced by clinical and epidemiological trials which have shown that reduction and control of blood pressure is beneficial for patients with moderate and severe hypertension. In addition, there is evidence that many individuals in the community have hypertension but are not being treated.

The target would be to identify all hypertensives and describe and improve on the method of management which they are receiving, or to introduce treatment where none is at present given. Here again research evidence would be used to isolate the types of people, for example those in certain age/sex groups, likely to be at most risk. Information on the population characteristics of the area would be used to estimate the numbers in these groups, and further information would be required to identify individual hypertensives. This identification would be in two parts. Firstly, information would be collected from hospitals, out-patient clinics, and GPs on patients already being cared for in order to see if their current treatment could be improved upon. Secondly, information would have to be gathered in order to identify individuals in the 'at-risk' groups who have hypertension but are not being treated for it. For example, GP lists might be used as a basis for identifying those in the 'at risk' groups, and the blood pressure of all these individuals would then have to be measured (in a standard way) in order to discover the hypertensives.

In this example manpower, money, and buildings would be necessary for the identification and treatment of these patients. Therefore detailed information on the resources available in each area should be collected in order that these may be allocated and building programmes and operational policies developed. In addition, utilization data would have to be examined so that the effect of the identification and treatment of hypertensives on the rest of the service could be estimated.

Finally, the effectiveness of the programme in identifying hypertensives would have to be checked, perhaps by means of random screening in the 'at-risk' categories in the population as a whole. In a field in which much has yet to be found out about the level of effectiveness of the treatment itself, it might be necessary to have

studies carried out by research teams to measure the reduction in morbidity and/or mortality due to hypertension of individuals who have had their blood pressure controlled and results would need to be compared with, for example, other similar areas not having such a programme.

In summary, the types of data required for decisions in the planning process which should be specifically collected for each area fall into three main categories: Population, Resources, and Need and Demand.

The rest of the paper will discuss these three categories in detail, referring not only to planning but also the other area functions (mentioned above, p. 241) for which data must be available.

Population data

Demographic, social, and environmental data are needed to describe the characteristics of the population. These data will show the density of the population and how it divides between various groups and will give some indication of the likely needs of the area. Many of these data are already collected nationally in the decennial censuses and in the system of registration of births, marriages, and deaths. There is no attempt here to consider all the limitations of these national systems, but there are some problems which are particularly relevant to the information needed by area health authorities.

A basic problem concerning census information is that it is only available every ten years; or possibly every five years but then at least partly on a sample basis. This causes particular problems in rapidly developing areas, and in such areas it may be worthwhile to supplement census information with specially collected survey data. Provided that it causes no further delay in results from the full censuses, a sample census half-way through the intercensal period can help this problem. However, it has to be remembered that information from a sample is subject to error, and that this is especially relevant in small areas in which errors are relatively large.

Another general point connected with the first problem concerns methods of population projection which at present vary between the different agencies concerned with health. Different sources of

population data are used to make estimates of the population and its structure. These include Registrar-General's Statistical Reviews, 1961 and 1966 Censuses, GPs' lists, and local estimates. All of these sources have limitations and it is important that the most accurate baseline data and projections are available so that the possibility of error is minimized. It is recommended that methods of population projection should be standardized by the Office of Population Censuses and Surveys (OPCS), and that the OPCS projections should be used for all areas and constantly revised. There should, therefore, be communication between the OPCS and the area health authorities concerning the types of population projections needed for planning health services. In rapidly developing areas population projection based on past trends may be very misleading and again it may be necessary to have specially collected area information on, for example, the type and amount of new housing in order to make the projections more realistic. Further discussion of population projections will be included later under 'Utilization Data'.

DEMOGRAPHIC AND SOCIAL DATA

This divides into two parts—data collected on a periodic and data collected on a continuous basis.

Data collected periodically

These data should include information on: (*a*) age/sex/marital condition, (*b*) occupation and employment status, (*c*) level of educational attainment, (*d*) mobility (both within and without the area), (*e*) ethnic group, (*f*) household facilities, (*g*) household size and overcrowding, and (*h*) private transport. This information will relate to individual households and their members and would be collected in the ten-yearly censuses nationally by the OPCS.

There is current concern over the lack of an integrated national system of social statistics in this country, which has been expressed by Professor Moser in the first issue of *Social Trends* (4). Work is at present being undertaken in this field, in particular with regard to the development of social indicators and as this work progresses better quality information may be available for the area health authorities. This point applies equally to data collected continuously.

Data collected continuously

These data should include information on (*a*) births, (*b*) deaths, (*c*) marriages, and (*d*) (ideally) migration. This information will relate to events (but should be collected in such a way that it can be linked to individuals) and be collected through the system of registration of births, deaths, and marriages, again organized on a national scale by the OPCS. In death registration there are special problems of accuracy and completeness regarding the recording and coding of 'cause of death'. For example, Moriyama (5) examined the (provisional) mortality data for 1968 in the USA and found that the figures suggested that mortality from hypertensive heart disease had decreased by 65 per cent, although the actual change in the death-rate for hypertensive heart disease was less than 10 per cent. Most of the apparent change in the hypertensive heart disease death-rate resulted from revisions of the *International Classification of Diseases*. It should be noted that the possibility of multiple-cause coding is at present being seriously considered by the OPCS and may in the future add to the realism of the results analysed although there are enormous difficulties involved. Accuracy of recording will only be improved by the use of standardized terminology and by increasing the awareness of doctors of the importance of complete information on death certificates.

For both periodic and continuous data the OPCS should be responsible for analysing the data and should make analyses readily available to area health authorities. One particular recommendation concerns the size of area for analysis. It is recommended that more information than on the present summary sheet should be available for small areas, that is, down to ward and parish level.

Again for both (data collected periodically and continuously) interpretation of the data provided by the OPCS should be the responsibility of the area health authority's 'community medicine team'. The term 'community medicine team' is used to refer to the team of people, including doctors ('community physicians'), statisticians, and social scientists who work in the field of community medicine. It is envisaged that these teams will be located at district, area, regional, and national levels, although not all teams will necessarily have all three types of staff. The team would have responsibilities in the development of preventive services and health education programmes; in the planning of services and the

assessment of need; in the evaluation of services and preventive measures; in stimulating effective co-operation both within health services and between health and social services; and finally in an advisory capacity in the field of environmental services. With these responsibilities it is appropriate that the team should have the task of the interpretation of these and other data, and of communicating the results to the appropriate health agencies.

ENVIRONMENTAL DATA

These data should include information on: (*a*) pollution levels and climate, (*b*) population density and over-all migration, (*c*) industrial and occupational structure, (*d*) general transport systems, (*e*) general housing standards, (*f*) facilities provided by other agencies such as local authority education, social service, and housing departments, and those provided under occupational health schemes. The collection of these data would largely be the responsibility of local authorities (for example, planning departments). The collation and analysis of the data for the country as a whole would be the responsibility of a national organization (for example, the Central Statistical Office). Finally, the interpretation of the data would be the task again of the local authority, and this task would include making information available to health and other interested services.

Resources

Attempts have been made to draw together information on resources in England and Wales both for hospitals (1, 2) and for local authority health and welfare services (6). Each set of plans was developed independently of the other, however, and each has limitations. In the original Hospital Plan, schemes were inadequately defined and imprecisely costed, although attempts were made to rectify this on the Revision. Guidance on planning was given to regional hospital boards on the basis of national averages and although it was recognized both in the original and the revised Reports that plans needed essentially to be made in the light of the special requirements of each region, perhaps insufficient emphasis has been put on the need not only for regional hospital boards to consider their own special circumstances but also

to examine variations from the national norm in the provision of and need for services within each region.

The data included in the local authority plans was not complete. Certain functions were excluded, for example, closely related services such as school health and child care, immunization programmes which it was considered did not lend themselves to long-term planning, and voluntary provision. Information on staffing excluded trainees and pupils. It is clear from the plans that there is considerable inter-area variation in the provision and plans for resources and that the national averages derived on the basis of existing provision are unlikely to affect local provision, since areas with an already 'high' level of provision were planning an even higher level. Bleddyn Davies (7) in an attempt to correlate levels of provision by local authorities with levels of need has shown that 'there was if anything a tendency for need to be negatively correlated with indices of the intensity of provision'. It is clearly important that the provision of manpower and physical facilities is seen to be closely related to the characteristics of each area. Area health authorities should be responsible for the collection of data on health resources, except for facilities which may be provided on a regional basis, in which case responsibility should lie with the regional authority. Supervision of the collection and collation, analysis and interpretation of data should be the responsibility of the community medicine team at area level. The following data on the resources of both statutory and voluntary agencies will be necessary:

1. *Responsibility for services.* Details of the statutory services which health agencies are required and empowered to provide and the services actually provided (including delegated responsibilities) both by statutory and by voluntary agencies should be collected periodically.

2. *Organizational structure and decision-making.* It is important not only that the organizational structure of departments (in main and area offices) is described but also that the decision-making process involved in the allocation of resources within each department is studied. These data should be collected periodically.

3. *Organization of services.* The distribution and availability of the following services should be described: (*a*) hospitals (in-patients, out-patients, and laboratory services), (*b*) primary care, (*c*) other

community services (district nurses, midwives, health visitors, ambulances, medical loans, family planning, chiropody, chemists, dentists, and ophthalmic practitioners).

The data should be collected periodically and include: (*a*) the number of facilities provided (for example, hospitals, GPs, laboratories), (*b*) their siting, (*c*) their catchment area, (*d*) the services provided (for example, specialities, beds, laboratory tests), (*e*) the frequency with which they are available, and (*f*) the times at which they are available (e.g. surgery and clinic times).

4. *Physical facilities.* Information should be collected periodically on the facilities provided by each agency and include a description of buildings (number, condition, and size) and equipment.

5. *Manpower and training.* Data on manpower should be continuously collected and should include not only details of the distribution and hours worked by existing employees, but also, for trained personnel such as married women (and trainees) who are not employed, details of their geographical distribution, the hours which they are prepared to work and the extent to which retraining is necessary.

6. *Finance.* Details of the capital and sources of revenue (central, local, and voluntary) of each agency and the costs of services will all need to be periodically available, for both present and future provision.

Need and demand

The need of an individual for health care is defined as that care seen as desirable by the medical profession. This need should be determined without consideration of the availability of services and resources. The need of a community for health care is then the sum of the needs of the individuals in the community.

Some need will be known and expressed as demand, some will be unknown. The development of indicators of need should be the responsibility of research teams, but the assessment of need within each individual area should take place at area level.

Demand for health care may be greater or less than the need for health care. It is assumed that in most cases need is more than demand, but there are situations in which demand *for health care* is greater than need *for health care*. The latter might arise if, for example, a person seeking care from a primary physician would in fact be better helped by some agency other than health, such as other social services. Demand, then, is a function not only of need but also of such factors as the availability of facilities and the extent to which this availability is known and understood; socio-economic factors, for example, family size, income, ethnic group; and psychological factors which affect an individual's perception of his symptoms and his illness behaviour. Demand can itself be divided into 'met' demand, which is expressed in the figure of utilization of health services, and 'unmet' demand, seen, for example, in the length of waiting-lists. The collection, collation, analysis, and interpretation of data on both met and unmet demand should be the responsibility of community medicine teams.

MET DEMAND (UTILIZATION)

In considering the type of data which should be available on patterns of demand for statutory and voluntary agencies, it is important to examine the inadequacies of existing information. These fall into three main groups:

1. Data related to organizational boundaries which do not coincide.

2. Variations in the methods of population projection.

3. Variations in the type of data collected and in the methods of recording it.

Data related to organizational boundaries which do not coincide

Under the present structure, hospital catchment and regional hospital board areas do not always coincide with administrative areas and therefore with the boundaries of local authority services, so that comparable data for different parts of the NHS are not easily obtained. This is reflected in the 'Plans for the Health and Welfare Services of the Local Authorities' (6) which are organized by hospital region. Local authorities which straddle more than one

hospital region are entered under the region in which the largest part of the population lives. Only two regional hospital board areas in England and Wales—Birmingham and Wales—are coterminous with local health authority areas, and regional hospital boards whose boundaries cut through administrative areas have to make estimates of the population included in these partitioned areas. Detailed population data are not always available for such small areas.

Local authority departments do not necessarily organize their work on the same area basis and area organization within departments varies between services, so that a comparison of the level of provision not only between allied local authority departments, but also within one department is difficult to obtain. The introduction of the Seebohm social services departments (8) will enable this situation to be remedied for the local authority departments providing social services and it is important that the same opportunity for area health authorities is not lost. It is essential too, that the voluntary services to which statutory agencies delegate some of their functions organize their work on the same area basis to facilitate co-ordination, to enable a real assessment of the contribution of voluntary agencies to be made and, above all, to complete the picture of the use being made of services within an area.

The organization of services with coterminous boundaries would mean that the number of agents to be contacted on behalf of patients would be reduced and also that meaningful comparison of the amount and type of services provided could be made between and within agencies.

Variations in the methods of population projection

Data on the utilization of services is useless unless it can be related to the population which the services notionally provide for. The different sources of population data used at present and the need for standardization has been mentioned (pp. 246–7). A particular example of the inaccuracy of some population data is to be found in the *Hospital Building Programmes* (2) where it was recognized that the expected population in England and Wales of 49·2 million in 1975 was an unrealistic estimate, since the population had already grown from 46·2 million in 1961 to 47·8 million in 1966. The data is also sometimes inadequate, for example, utilization data on the

elderly is often given for the age-group '65 and over' rather than for age-groupings over the age of 65, so that it is impossible to derive information on the differential use of services by different groups of patients aged 65 and over. This is an important omission, since it may be that a greater use of services is reflected in the older age-groups.

Variations in the type of data collected

The different types of data collected and the varying amount of importance attached to different sorts of data, the effect of previous policies and earlier out-of-date legislation are, reflected in the multiplicity of application forms and records which are kept. Acheson (9) has described these elsewhere and made suggestions for their improvement. Clearly, as with the boundaries situation, the unification of local authority social service departments has provided the opportunity to develop a common record and the unification of the health services affords the same opportunity. Attention should be given to the means by which records held by both authorities can be made comparable so that data can be linked.

Basic data, although not always comparable between and within areas, is often collected at a local level but not collated. This is particularly true of information collected on individuals which is often available from individual employees within a service, but when collated is usually related to events rather than to individuals.

In addition to the problems caused by the use of boundaries which are not coterminous and information given about areas which are too large the data is sometimes not comparable (*a*) because of the different units of measurement used to describe utilization patterns, for example, sometimes records show the number of cases visited and others the number of visits made and (*b*) because data is not collected for a common period of time, for example, a calendar year. Clearly, standard units of data should be used and although information on costs may have to follow the financial year, it should be possible to collect all data on the basis of a common year, financial if necessary.

Agencies vary in the amount of data which is kept and this is related to three major requirements: (*a*) to provide information for annual returns to ministries, (*b*) for day-to-day management and administration, and (*c*) for making plans. The requirements of

research and surveillance are less frequently considered. Clearly the types of data which are kept by agencies should provide information for all six purposes outlined at the beginning of this paper.

Much of the data available in summary form at local, regional, and central level consists of head-counting and is related to patterns of previous demand and expenditure, rather than to characteristics of the individuals receiving services and of the population notionally served. However, basic descriptive information is collected on patients admitted to hospital, for Hospital Activity Analysis (HAA) and now for the Mental Health Enquiry, but the data is collated for deaths and discharges only, so that information on long-stay patients is not routinely available for research purposes, although it is used for daily administrative purposes. It is essential that this data is collated, particularly for psychiatric, geriatric, and chronic sick cases, where the average length of stay is high compared with other specialities.

HAA would be a very useful tool for studying inter-area variations and also for obtaining data on patients going out of the area which notionally serves them to hospitals elsewhere. At present this is not possible, since only one regional hospital board (Wessex) had 100 per cent of all discharges covered at 30 September 1970 and two boards (the North-east Metropolitan and the South-east Metropolitan) had coverages as low as 5·4 and 4·7 per cent. It is expected, however, that in 1971 at least six boards will have total coverage.

There is no data comparable to HAA for local authority, GP, or hospital out-patient and casualty services. Patients attending more than one out-patient clinic are classified as new patients at each clinic they attend with the result that no indication is obtained of the extent to which individuals are using more than one service at a point in time or have used several services over a period time. If this data were available, very valuable information could be extracted on the number of patients attending clinics rather than on the number of attendances, and on the medico-social characteristics of these people. This would allow an assessment to be made of the extent to which these factors are related to usage of services. The most recent national data on general practice are the Cushion and Logan studies in the 1950s (10).

Since so much of existing data is related to events rather than to

individuals, morbidity rates are inflated, fatality rates are reduced and longitudinal studies of cohorts are not possible and additionally, in the hospital, distributions of stay are biased.

The best example of data collected on individuals over time is the data collected by cancer bureaux. The data are collected by regional cancer bueaux from the hospitals in their areas on patients for whom a firm clinical diagnosis of malignant disease has been made. The data obtained are: name, age, address, dates on which treatment was sought and obtained and brief clinical, histological, and treatment data. In addition, other data, for example, occupation, industry, and cause of death are obtained from time to time.

It is clear that much of the basic data required for management and administration and also for research and surveillance are very similar and also that the types of data required are very similar for all services, so that with a few exceptions it is possible to design a blueprint which is applicable for all purposes and services.

The services for which area health authorities should plan are mentioned above (p. 250). Services which are at present the function of the NHS but which are certain or likely to be transferred to other agencies are omitted from the list. They are local authority public health services (11), home helps, and good neighbours (8), and those functions of medical officers of health which are likely to be transferred to GPs.

In addition, services such as the hospital super-specialities, blood transfusion services, and the cancer bureaux are not included since it is likely that data for these would be collected at a regional level.

The types of data which should be collected on all individuals receiving care (and as much of this information as possible on individuals referred for care who do not actually receive it), are:

1. Names (forenames, surnames, maiden name if married, and mother's maiden name if single).
2. Addresses (both permanent address and address from which referred).
3. Date of birth.
4. Sex.
5. Marital status.

6. Occupation.
7. Referree (i.e. the individual who refers the patient to the agency).
8. Medical and social reasons for referral.
9. Date of referral.
10. Type of referral (for example, urgent, routine, transfer).
11. New or old patient (a new patient would be identified on the first occasion he is referred to one agency for a particular episode of illness).
12. Date of admission/attendance/visit/work carried out.
13. Agency to which referred.
14. GP.
15. Diagnoses (it is recognized that diagnoses will not always be available, for example, in primary care, but should be obtained whenever possible. It is important to develop suitable techniques of classification relevant to all types of care, for example, nursing and medical care as well as to death certification.).
16. Treatment/investigation/operation/equipment.
17. Outcome (for example, discharged/died/treatment continuing).
18. Place to which discharged (for example, home, hospital, or other institution).

It is clearly unnecessary for some information to be collected on the same individual each time a service is received. Ancillary staff and chemists, for example, could use the GP's record as a source of data for addresses, date of birth, sex, marital status, and occupation if a link number were used. It would clearly be easier for staff attached to general practice to obtain this information than it would be for unattached staff.

A problem which has been raised with regard to record linkage is the fear of loss of confidentiality of medical information. The Society for Social Medicine (12) considered this fear to be ungrounded and even considered it possible that the reverse may be true as, for example, most of the data output would be in tabular form and unrelated to individuals and, in addition, coded and punched data are less accessible than hospital records at present stored in written form.

Some of the items listed above would not be collected for some services. For example, laboratory services, ambulances, and

chemists would not need to know whether the patient was new or old, or diagnoses, and the chemist would not need to know 'place to which discharged'. However, these are exceptions, and the above items would normally be collected for all agencies. It would be appropriate to collate information for a total study where there are relatively few data (for example, district nurses), or where sampling would be too complex (for example, out-patients, where some clinics are held for new patients only, some for both new and old patients and where there is considerable variation in the number of patients and the age-ranges within the same specialities over time and between specialities).

UNMET DEMAND

Data on demand which is not met can be obtained from such sources as waiting-lists for services, although these data are limited as reliable sources of information since individuals may well recognize a need but be deterred from applying for a service because they know that they are unlikely to receive it. The data on waiting-lists would be more detailed than they are at present, giving information on the characteristics of individuals, such as:

- Names
- Addresses
- Date of birth
- Sex
- Marital status
- Occupation
- Referree
- Medical and social reasons for referral
- Date of referral
- Agency to which referred
- GP

Data on these patients would be continuously updated.

NEED

The need of an individual for medical care was defined earlier in the paper as 'that care seen as desirable by the medical profession . . . without consideration of the availability of services and resources'. However, the profession's definition of desirable care may not always coincide with that of the individual patient, or pressure groups within communities, or the research worker, and the different factors determining whether or not need is fully met have to be isolated and examined.

The fulfilment of need is dependent on the patient–practitioner interaction. Where the individual is aware of a medical need which is recognized by the practitioner, then, given that there are not other supply constraints, need will be met. There is perfect agreement in this model when the community also recognizes the same need. Maternity care approximates closest to this example and here the onus is on the area health authority to identify individuals requiring care and to monitor their development.

Clearly, however, this situation does not always occur and, in defining total need, a number of other intermediate possibilities which can arise depending on the level of awareness of the individual, the community, and the practitioner, should be taken into consideration.

Possible illustrations are:

1. A medical practitioner is aware of the need to provide care for a certain condition, but the need of a particular individual with the condition is not identified either because the individual and the community do not recognize the need and/or because a limited supply of facilities and/or manpower has depressed their demand. This can be seen in the example of people who are overweight. In this situation, the expected demand could be established from epidemiological evidence applied to the particular baseline population and the observed or actual demand for service extracted from this to obtain the extent of the unmet demand. Individuals requiring care but not receiving it could be identified either by survey or from an age/sex register kept in general practice, by the area health authority team. Some of the evidence could be obtained from measures of unmet demand (for example, waiting-lists), although as previously stated these have dubious value as reliable sources of information. In addition, research would be required to discover what behavioural characteristics of individuals had led to the low level of demand and to establish ways of educating both the individual and the community to recognize the need for care. If it could be ascertained that the previous level of provision had depressed demand, then increased provision of services may also be necessary. Ways in which these behavioural and supply factors might be isolated have been suggested elsewhere by Holland and Collins (13).

2. A medical practitioner is aware of the need to provide care for a

certain condition, for example, venereal disease, but the need of a particular individual with the disease is not identified because, although the community is anxious to protect itself and therefore that these individuals are treated, the individuals may not recognize the need for care. The same investigations suggested under (1) above, would have to be carried out to identify individuals, to consider the level of provision and to consider how the individual (rather than the community) can be made aware of his need.

3. The individual and the practitioner recognize a need, but the community does not and the counterpart of this, where both the individual and the practitioner do not see the need for a particular course of action, but the community does. Both of these situations usually arise when the symptoms of the condition are physically unpleasant or little understood, as for example, in the case of a community's resistance to domiciliary care of mongols or of the mentally ill. The individual (and/or his family) and the practitioner consider such care to be feasible, but it is opposed by the community. These situations require research into the reasons for opposition, for policy direction at a national level and for health education at an area level to change or modify entrenched views.

4. The individual is aware of a need which is recognized by neither the community nor the practitioner. This could arise where an individual recognizes the need either for health or other social services and is unsure of the appropriate agency to consult. Training of professionals and in addition education of the community at an area level would be implied in order to direct patients to the appropriate agency.

5. The individual and the community recognize a need but the professional does not, either because demands are being made which are not the province of medical care, or because the demands are for medical care which is inappropriate, or because the individual and the community have identified areas where care should be provided and research has not yet established this need. In the first instance, advice would be given on the appropriate agency to provide the required care; in the second example research would have to be carried out to provide evidence at all levels—national, regional, and area to show why a particular programme is inappropriate and nothing can be done (with good research originally this situation should never arise) and in the third example research

would be needed to validate the claims made by the individual and the community.

In some instances, neither the individual, nor the community, nor the practitioner is aware of the need to provide care. This situation usually occurs when (*a*) little is known about the aetiology of a disease; or (*b*) when the appropriate medical care is not clearly definable. An example of (*a*) was smoker's cough. Coughing was not considered to be abnormal by individuals, the medical profession, or the community until relatively recently. In this sort of situation where little is known about the aetiology of a disease, studies should be mounted by research teams outside area health authorities to increase knowledge so that, in the future, incidence and prevalence estimates can be used to identify those at risk and services planned and provided to meet their need. In the case of (*b*), trials to test alternative methods of care should be set up, also by research teams outside area health authorities.

Once the needs for different services have been defined and quantified, decisions as to the priorities which should be adopted in allocating resources have to be made not only on the basis of the benefits to be gained by individuals, but also on the benefits (economic and otherwise), to be gained by communities, taking into account the number of individuals requiring care and the costs of this care. The constraint on the amount and type of resources to be provided may not necessarily be shortage of money, but may more particularly be the inefficient use of or shortage of manpower.

Conclusion

This paper has attempted to explore the setting up of the ideal area health authority information system. The basic point that has been stressed is that the information requirements of the various functions of the area health authority must first be defined and the system built up to meet these requirements. The planning role has been looked at in particular, but many of the information needs identified apply equally to the other area functions that have been outlined. These other functions must also be examined in detail.

The cost of introducing such an information system would be considerable. These costs will be effectively cut if staff are well

trained in the functions and methods of data collection and so motivated to do their work as accurately as possible and thus to substantially reduce the need for correction of data. Moreover, the cost of the information system (in terms of manpower and equipment as well as money) will be amply justified if it is good enough to aid the smooth running of daily activities in the health services; to keep general surveillance of disease in the population; and to enable more effective planning decisions to be taken.

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9

Staffing the National Health Service

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Staffing the National Health Service

Summary

Proposals for the reorganization of the National Health Service must affect and be affected by the staffing situation. The NHS appears to have failed in the past to develop a coherent framework for manpower planning and utilization. Major causes of failure have been the tripartite structure of the NHS and the passivity of the central departments.

The paper opens with the case for central manpower planning and an examination of some of the problems involved. There is also a brief account of advances in staff management in other areas of the public sector and in private industry. The existing staffing situation within the NHS is examined in some detail, first by employing authorities and then by themes (recruitment, training, career-structures, etc.). This is followed by a discussion of some elements of a more rational staffing structure. The main activities within the over-all staffing function are defined as: (1) objective-setting, (2) data-gathering and intelligence, (3) planning, (4) recruitment and career-management, (5) training, (6) deployment, (7) pay-settlement and staff relations, and (8) management services. Each is examined in turn, with recommendations for the distribution of tasks between three levels of organization—national, regional, and operational.

The conclusions point to a much larger and more positive role for the central authority than has been the case in the past. The various forms which a national staffing agency might take are discussed.

Finally the implications of reorganization are examined, with particular reference to the proposals of May 1971. The Consultative Document is criticized for its failure to propose a completely unified Service. Also, although there is little detail in the Document about the distribution of staffing functions between the three levels of authority, apprehension is expressed about the absence of any clear intention to give a more positive role to the central departments.

Nature of the problem

We are concerned with problems of manpower planning in a changing NHS. The term 'planning' is used in a quite non-doctrinaire sense to mean, in Samuel Brittan's phrase, 'a set of policies which together make up a credible strategy for achieving a stated objective' (1). An indication of what is involved in the more specific exercise of manpower planning is given by L. C. Hunter and D. J. Robertson (2), who define it as 'basically the identification and measurement of potential future imbalances in labour supply and demand, and the development of plans or policies designed to avoid or minimise the incidence of such imbalance'. In this paper we examine the problems of manpower planning, the adequacy of such planning within the NHS in recent years, the problems and opportunities created by innovation (notably the implications of a reorganized service), and the alternative responses which seem possible.

The difficulties involved in manpower planning are very considerable. Brittan's definition reminds us of the prior necessity of a 'stated objective', since resource-planning is essentially about means and cannot proceed effectively until ends or objectives have been identified. Have the objectives and priorities of the NHS been defined with sufficient clarity to allow manpower planning to proceed confidently and quickly? The answer is almost certainly 'No' and this is perhaps an indictment of successive governments.

However, we must not underestimate the problems faced by the authorities in defining the future shape and development of medical services and in identifying in advance any imbalances in manpower demand and supply.

On the demand side, many of the problems faced by planners were described in the Todd Report on Medical Education (7). The Commission noted that: 'The future pattern of medical care will be determined only partly by deliberate decisions: to a great extent it will be the result of developments in medicine itself, of movements within the society in and for which medicine is practised, and in particular of changes in the organization of medical care. . . .'

Developments 'in medicine itself' are likely (as previous papers have indicated) to include the near-conquest of infectious diseases, a greater emphasis upon prevention and early detection, an increase in prolonged care (of geriatric and mental cases, for example) and, of course, many advances in medical science and technology with profound but unforeseeable implications for the required scale and distribution of medical personnel. Health services are perhaps more vulnerable to the new demands created by technological advance than is, say, private industry, since it appears that no new drug or treatment can be ignored or, once introduced, deliberately suppressed or kept in short supply. One thinks of the considerable demands upon nursing and other personnel made by developments such as cancer screening, renal dialysis, or intensive care units for heart patients, all of these being cases where an analysis of 'opportunity' cost or of benefit in relation to cost seems economically as necessary as socially it is unacceptable.

Thus many of the factors which will determine future manpower demand are internal to medicine, predictable to a varying but limited degree, and usually outside the control of the manpower planners. The same conclusions hold even more strongly for the broader 'movements within society', ranging as they do from taxpayers' readiness to pay for an ever-expanding Service to shifting morbidity patterns related to ecological, behavioural, and a host of other developments within society at large.

Only in the third of Todd's categories of developments, namely 'changes in the organization of medical care', does it seem possible to combine prediction with manipulation, to retain some control

over future developments, and to include manpower considerations in decisions about the future. Of course, no central authority could or should determine the future organization of medical services in fine or inflexible detail: even important developments such as the divisional system in hospitals, relations between specialists and GPs, and the use of medical auxiliaries will have to be determined, in part at least, by technological and other factors internal to medicine, by experimentation, and by the emergence of a consensus within medical opinion. But a national manpower strategy should certainly be interwoven with basic organizational decisions about integration of medical services, the distribution of functions between national, regional, and community agencies, the size of areas and number of administrative tiers to be adopted, and so on. To say that such awareness and control is desirable is not to say that it will be achieved. In our later analysis of the current reorganization proposals we note with some concern the seeming absence of any detailed consideration of their manpower implications or of the limitations to reorganization which may be created by the availability of both clinical and administrative manpower.

Assessment and manipulation of demand is only one side of manpower planning since, as Hunter and Robertson go on to say, such planning both 'casts attention forward to future developments in the demand for labour, and backward to the quantitative and qualitative adequacy of existing educational and training programmes' (2). Thus we must also consider manpower supply (both quantitatively and qualitatively) and the problems of relating supply to demand.

It is fairly easy to say, at least for clinical manpower, how many qualified personnel are available or 'in the pipeline'. It is much more difficult, as several medical manpower reports of recent years have demonstrated, to estimate the volume and distribution of supply in the future. The factors determining career choices are only partly understood, but they must be influenced to some extent by the relative attractiveness of competing careers, and it is very difficult to predict how attractive a career in medicine will seem to successive generations of schoolchildren. Once qualified, clinicians are not particularly mobile as between professions or even between employers, but they may be geographically mobile, so that patterns of migration both between regions and between

countries must be taken into account. In the case of non-clinical personnel such as administrators there is probably less geographical mobility but greater possibilities of movement between employers. It is conceivable, for example, that a reorganized system of much larger local authorities may offer some experienced administrators better prospects than they can at present see in the NHS. Obviously, then, there is much in the assessment of future trends in manpower supply that is speculative, but speculation can be more informed or less; and some systematic attempt to monitor and project trends is an important but often neglected aspect of manpower planning.

If it is so difficult to assess future supply and demand, and if predictions so often prove to be inaccurate, why attempt manpower planning at all? The necessity of some form of planning seems obvious from the very nature of manpower as a resource, particularly when the skills demanded of employees are specialized, exacting, and acquired only over a period of years—as is the case in all clinical and some non-clinical sectors of the NHS. Unlike some resources (such as finance) which can be regarded as a flow, skilled manpower at any given time is a stock. The size of that stock and its internal distribution between fields and levels will have been determined five, ten, and more years previously by a great many individual and institutional decisions. If the resulting stock is unsuited to immediate or imminent needs, there is little that can be done in the short run to ease the situation.

In the case of short-falls in manpower supply, the numbers of qualified staff can be changed only slowly and at the margin because of the delays involved in recruitment, training, and acquiring necessary experience. There is also, of course, the familiar problem of translating statistical indicators of shortages into administrative action and of making such action effective. It is possible, for example, to increase the number of university or training places but there is no guarantee that such places will be quickly taken up. To raise levels of remuneration is usually insufficient in what seems to be an indifferent or imperfectly informed market and again there will be serious time-lags. (In any case, we seem very reluctant within the public sector either to manipulate salary levels or to allow their free movement, so that this particular incentive is under-used.) There is a variety of short-term responses to problems of manpower shortages. These

might include different combinations of labour (for example, the greater use of auxiliaries); but in practice there is often resistance to such innovations from professional and other groups. The ultimate improvisation is, of course, that of overworking available staff, but the effects of this upon morale and efficiency may be counter-productive.

The short-term remedies for a situation of manpower surplus are as unappetising as those for deficit, even if they fall short of outright unemployment or underemployment. The longer the period of training and the greater the degree of specialization, the less feasible will be the transfer of surplus manpower to other types of employment. Even within medically qualified manpower, where surpluses tend to be specific to the more attractive specialisms such as general surgery, there is a marked reluctance to move to areas of manpower deficit such as casualty work. It is obviously easier, as well as kinder, to attempt longer-term solutions and these are more effective in preventing surplus than in meeting a deficit, since university and training places cannot be taken up if they are not available.

Thus we conclude that, great as are the difficulties, there is no acceptable alternative to long-term planning of manpower for the NHS, in an attempt to identify potential imbalances between supply and demand sufficiently in advance of their incidence to minimize their effects or to avoid them altogether. If we are concerned with the NHS as it will be in 1975 or 1980, we must be thinking *now* about the manpower resources which the NHS will require: by 1975 it will be too late to do anything other than improvise or alleviate.

Finally, there is the question of the quality of manpower available to the NHS. This is a matter of recruiting and retaining suitably qualified people and of their optimum utilization while in employment. It involves training and retraining programmes, counselling and welfare schemes, the design of appropriate career-structures, and many other skills and activities which come within the range of modern personnel management.

The importance attached to manpower utilization has sharply increased within the private sector in recent years. Reasons include the higher levels of skills required in many sectors of industry (especially 'science-based' industry), shortages of many types of skilled manpower and soaring wage-costs, the desire for

greater productivity and, above all, the need to respond to government intervention in such areas as superannuation, redundancy, training, incomes, and now industrial relations. The response of the public sector has been much patchier. Local government has had a reasonable record in most fields of professional training, but training and utilization schemes for generalist administrators came much later and have been a good deal less effective. However, there is now much greater interest in the problems of staffing local authorities. The Mallaby Committee (17) (and a corresponding Scottish Working Party) reported on this topic in 1967. Their proposals, combined with the opportunities offered by the imminent reorganization of local government areas, should lead to improvements in the 1970s. The nationalized industries also made a slow start but more recently they can point to examples of effective manpower planning and management in such matters as payment systems (British Rail), planned redundancy and rationalization (National Coal Board), and management development programmes (Electricity Council and Generating Board). The Civil Service was bitterly attacked in the early 1960s for its record in 'control of establishment' but, particularly since the important Fulton Report in 1968 (18), reforms have been made or are in hand with regard to recruitment, training, dissemination of management techniques, improvement of career structures and the removal of arbitrary class divisions, the utilization of specialist staff, and many other matters. The status of establishment officers has improved in the last few years and, since November 1968, there has been a separate Civil Service Department concerned with manpower planning and utilization.

Thus manpower problems have received growing attention in recent years both in the private and public sectors. We must now examine in rather more detail the record of the NHS as an employer or, rather, as a consortium of employers.

Existing arrangements

THE CENTRAL DEPARTMENTS

By contrast with their concern over the years to ensure an adequate supply of medical personnel for the NHS, the Central Departments

originally took a rather negative attitude towards the development of manpower policy for the remainder of the 750,000 people who work for the NHS. This may have reflected the fact that the Health Service Acts (unlike the legislation which created the nationalized industries) made no-one specifically responsible for organizing and co-ordinating staff development and training programmes. This, coupled with the tripartite structure of the NHS, originally left something of a vacuum at the centre. However, a variety of factors have in recent years forced the departments to take a closer interest in staffing problems. An early landmark was the Noel-Hall Report (1959), the first of a series of inquiries into the quantity and quality of non-medical staff in the hospital service. Other indicators of central involvement were the Tyler Report (3) on engineering staff, the Lycett-Green Report (4) on administrative staffs, the Salmon Report (6) on nursing staff, and the Zuckermann Report (5) on scientific staffs. The findings and recommendations of these reports required action from the Departments; and the passage in 1964 of the Industrial Training Act had placed squarely upon the ministries' shoulders the moral obligation to offer training facilities for non-medical staffs commensurate with those offered to staffs in other government departments and outside occupations.

In the 1960s the Department felt able to resist demands for the creation of a Health Service Training Board and for large-scale intervention in manpower matters. But ministers became increasingly concerned about the inadequacy of statistical and other information on the scale, content, and costs of training programmes and the lack of any comprehensive manpower plan. This concern was accentuated when the process began (around 1966) of preparing plans for reorganization of the NHS. By 1968 the DHSS had acquired a full-time training officer (from a nationalized industry) and set up a branch to begin systematic collection and evaluation of data on manpower development and training. Its work is allied to that of the long-term planning branch which is concerned with over-all health service reorganization. The claims of the manpower branch to be developing the nucleus of an NHS staff college at Cambridge meet with a good deal of scepticism from NHS officers. The Department's efforts to stimulate the development of field staff are regarded equally coolly. The DHSS, it is said, actively encouraged the creation of a hospital

service engineers' organization but failed to insist on membership among engineering staff. Again, the Health Services and Public Health Act of 1968 contained provisions for central support of organizations offering relevant training to staffs of the local authority, executive council, and hospital sectors; but little has actually been done to encourage these employing authorities to take advantage of the benefits which the legislation allows.

The Central Departments are directly responsible (with the Civil Service Department) only for the recruitment and training of their own civil servants. Medical staff are recruited by open competition with (in England) separate competitions for headquarters staff and regional medical officers. Beyond a short induction course, no formal training is provided. However a large number of recruits to the headquarters staff already have post-graduate clinical qualifications and about 40 per cent have the Diploma in Public Health. Administrative staff are recruited centrally by the Civil Service Department. The health and social services departments have not been high in the preference ratings of new entrants to the administrative class and studies of the career patterns of the most successful civil servants show a low incidence of experience with 'social policy' ministries. All graduate entrants and a growing number of non-graduate members of the merged administration group now receive training in government administration and the techniques of 'numerate' management, but until recently there has been little attempt to provide more specialized training beyond the four-week basic course in social administration. However, the Civil Service College is now beginning to offer more extended and systematic training courses for social policy administrators at all levels.

The main criticisms of the Department's performance are probably in terms of their indirect responsibility for the staff development programmes of the other employing authorities within the NHS. Such programmes (where they exist) have received little practical encouragement, far less guidance or co-ordination, from the centre. This lack of involvement may seem the more puzzling as we go on to examine the adequacy of these programmes.

THE HOSPITAL SERVICE

As the largest, fastest-growing, and technically and organizationally most complex sector of the system, the hospital service has led in the effort to formulate staff development policies. For present purposes, hospital staff may be considered under two broad headings: clinical and non-clinical personnel.

The recruitment and training of clinical personnel is divided between the universities and the professional medical, nursing, and allied bodies. The result of this division of responsibility has too often been a failure to ensure that training is relevant to all clinical careers or that clinical staff are adequately deployed throughout the various specialties. However, the 1968 Todd Report on Medical Education (7) made proposals for the rationalization of clinical training, involving the separate career-development of doctors with different types of interests from their date of entry into the profession. The Royal Commission's Report (7) was followed by proposals for reorganizing the staffing structure of hospitals on 'divisional' lines and for the creation of postgraduate medical boards with responsibility for devising appropriate schemes of examination and planned experience for doctors in different clinical specialties.

A more intractable problem has been the lack of any clear strategy for the training and career-development of medically qualified administrators. Such doctors were rechristened 'specialists in community medicine' by the Royal Commission. It was assumed that this professional category ought to incorporate the medical officers of hospitals and local authorities, once the divisional system of medical organization came to full fruition in a unified Health Service. But a number of problems are likely to remain. Most medical administrators, such as SAMOs and hospital superintendents, have been recruited from clinical medicine. Like the medical staff of the Central Departments, many have some clinical postgraduate experience and some are highly qualified for clinical practice. Few, however, have had adequate formal training in the administrative and managerial aspects of their work. The majority have opted to obtain a DPH or a DIH as the most useful form of training available. None have become Fellows or Associates of the Institute of Hospital Administrators, although these qualifications are probably more relevant to the administrative career.

It has proved even more difficult to evolve any policies for the recruitment and development of non-clinical staff. Not until the early 1960s was there a serious review of the situation of administrative staffs. At about the same time the problems of certain groups of technical personnel also began to attract attention. As a result there were created central organizations (the National Staffs Committee and the Scottish Hospitals Administrative Staffs Committee) to co-ordinate the recruitment and training policies of hospital boards in respect of administrative, clerical, and certain classes of ancillary personnel such as domestic services, work study, and catering. They later took responsibility for training nurse administrators. In nine of the thirty-one regional boards in Britain there are designated training officers. In the remainder, joint training arrangements exist between boards, with senior officers responsible for co-ordination of the arrangements. The larger boards operate substantial training departments. At local level an increasing number of group management committees have appointed personnel officers, whose task is to assist in selection of personnel for training, personnel relations, and 'planned movement' within the region.

The boards' major problem to date has been to devise a scheme of training suited to the needs of non-clinical personnel in the hospital service. At the outset the certificate of the IHA was considered the most useful career-related qualification for administrative staff. There has, however, been a growing recognition that the IHA syllabus provides only the basic information required by NHS managers and its courses have been supplemented in a variety of ways from within the NHS. Boards themselves now offer an extensive range of courses for staff at different levels and with varied requirements for specialist and technical skills. An organized system of manpower development, beginning with basic training for entrants into the career grades and extending to the most senior levels of management, has slowly come into existence under the auspices of the NSC and SHASC. But the signs are that these efforts are being obstructed by a quite inadequate career structure which provides too few opportunities and incentives to undertake such training.

In any case, the majority of more senior administrators were in post before these internal schemes took shape. In consequence, most of them trained in the tradition of secretarial officers in local

government and business organizations. They obtained recognition by the professional bodies of secretaries (CIS, CCS, etc.) or took degrees or diplomas relevant to public sector employment, such as the BA(Admin), LlB, DPA, or DMA. Similarly, the majority of financial administrators have obtained membership of their professional bodies (IMTA, CIA, etc.) and, while there is a trend for younger administrators to look less to outside professional bodies for qualifications, financial administrators are still expected to obtain recognition by their professional associations as a prerequisite for advancement. Broadly the same can be said of other groups of specialist staff such as engineers and architects. They all find themselves torn between the attractions of broadly acceptable professional qualifications and narrower but more directly work-related training schemes within the health services.

LOCAL HEALTH AUTHORITIES

In sharp contrast to the Civil Service, it is 'professionals' (or specialists) rather than 'general administrators' who occupy the key posts in most local authority departments. The prestige which their professional status confers upon medical officers of health within their local government context is not, however, reflected in their standing within the medical profession. Nor does it make the career of local authority medical administrator any more attractive to young doctors.

Recruitment to medical officer posts has been difficult for several reasons. There is little emphasis upon community medical care in the university curriculum and as a field it possesses little of the glamour offered by the clinical specialties. The local authority medical officer is isolated from the remainder of the profession, both by the nature of his specialism and by the organizational context within which he operates. He is rarely a member of the local hospitals' group management committee, the executive council, or the regional hospital board. His managerial role is therefore as circumscribed as his professional role. There are not even financial incentives to compensate for the less rewarding aspects of his job. Levels of pay are related to the population of the authority served and very few local authorities are large enough to offer really competitive salaries. There are even problems of career blockages within the local government service and, unlike the hospital

clinical service, additional senior posts have not been provided to ease the situation. Not surprisingly, therefore, sources of recruitment are severely limited. Most medical officers have transferred from clinical specialties and usually have less than six years' post-graduate experience, or else they come from the ranks of general practice.

Although there has been a general recognition since the post was created in 1858 that the MOH ought to have some specialized training, there has been a statutory requirement to this effect only since 1959. Moreover, this requirement emphasized the production of a public health doctor equipped primarily with a knowledge of epidemiology rather than the skills of the manager. Most MOHs have acquired a Diploma in Public Health and it is their patronage which keeps the diploma courses alive. Only 30 per cent of SAMOs and 15 per cent of Central Department staff have thought it worthwhile to take this qualification and there is now fairly general agreement that the training it offers is not only inadequate to the administrative tasks of the MOH but also diverts training resources which might otherwise be devoted to the provision of a more universally acceptable qualification in medical administration that might be taken by all public service medical officers. The General Medical Council has recently revised the nature of the diploma to meet some of these criticisms. In some areas, too, there have been experimental courses offering a wider range of instruction and leading to the Diploma in Social Medicine. Some medical officers have participated in management courses for mixed clinical and administrative groups organized by a few universities and independent bodies. Finally, some initiatives in training have been taken by the Society of Medical Officers of Health. However, these experiments are not co-ordinated in any real sense and the Central Departments have taken little positive action on the Mallaby and other proposals for a scheme of joint recruitment, training, and deployment of medically qualified administrators throughout the NHS.

The most practical steps in the direction indicated by the Mallaby Committee have occurred in Edinburgh rather than in Whitehall. A working party of the Scottish Home and Health Department joined forces with the officers of the Scottish Hospitals Administrative Staffs Committee to organize a completely new form of training for doctors intending to pursue a career in medical administration.

The scheme, which began in 1967, is operated through a medical training committee of SHASC on which the hospital service, the medical profession, the medical school, and the Central Department are all represented. Its course lasts for three years and combines academic instruction in both preventive medicine and management with field placements in all three sectors of the Service and the Scottish Home and Health Department. Graduates are awarded the Diploma in Social Medicine of the University of Edinburgh.

The course has found some acceptance among employing authorities and the first two diplomates entered service with regional hospital boards in 1970. But there are as yet relatively few applicants, and the success of the experiment depends upon its acceptance as the appropriate form of postgraduate experience in the context of the Todd Report recommendations and upon the insistence of the Central Department that the diploma became a prerequisite for employment among administrative medical officers throughout the NHS (including the Health Departments). As the DHSS has only just begun to consider the problem in the light of its own working party report on medical administration, this development seems still some distance away. But it may be that the emerging concept of the 'community physician' specialism will crystallize these trends into a professionally acceptable specialty before administrative enforcement arrives.

The position of lay administrative staff within local government has traditionally been weak. Salaries are scarcely attractive except for very senior posts, and there are relatively few such posts because of the dominance of professionally qualified officers. Training was for a long time quite inadequate and the main qualification—the Diploma in Municipal Administration—has been criticized as being less a management training course than a rather broad educational qualification (although it should be said that such criticisms have recently led to proposals for major revision of the DMA curriculum). It came as something of a shock to local authorities, therefore, when the Mallaby Report (17) and its Scottish counterpart proposed that the second or third most senior position in each department should be filled by a general administrator and that there should be vast expansion in local government training in order to produce suitably qualified personnel.

In the aftermath of these reports, local authorities have been

attempting to devise reformed training arrangements and career-structures for lay-administrators. So far there have been few concrete achievements in terms, for example, of developing a competent cadre of lay-administrators with skills relevant to health and welfare administration. On the other hand, there has been a greater incentive for more ambitious staff to obtain work-related qualifications. There may soon be a considerable pool of local government personnel trained in the more specialized management services: programmers and analysts, financial administrators, and so on. Moreover, these are the types of skills which are easily transferable from one occupational area to another, and for which there will soon be a rising demand from a unified Health Service. Since local government and NHS reorganization are to occur more or less simultaneously, there may be an interesting period in which each will be seeking to 'poach' trained administrators from the other. Again, it is too early to say what the over-all trend will be or which sector will be the loser.

THE EXECUTIVE COUNCILS

Executive councils represent perhaps the most fragmented and diverse sector of NHS administration. There are 159 councils in Great Britain. They have no independent financial status and are commonly regarded as the mouthpiece of the general practitioners in their areas. Numbers of staff employed vary from 5 to 400, depending upon the population of the area served. Administrative jobs (especially at lower levels) are filled by recruits from many sources, including industry, the hospital service, and local government. Salaries also depend on the population served and, on average, are lower at all levels than in the hospital service. Only slightly more than half of senior staffs have professional qualifications.

It is therefore surprising that these bodies, through their Association, have in recent years made some progress in developing an 'executive council service', complete with a loosely organized system of recruitment, training, and career development, which is comparable (except in scale) to that within the hospital sector and is a good deal more integrated than anything so far achieved by local authorities. The Association of Executive Councils took the lead in developing a training scheme for officers in 1961. Those staff who are considered good career service material are now en-

couraged to follow up the basic courses of instruction for new entrants by enrolling for the examinations of an appropriate professional body, such as the CIS, CCS, ICWA, or IMTA. Alternatively, they may choose to broaden their knowledge by studying for a DPA, DMA, or DGA. Other qualifications less frequently encountered are degrees (usually in law, social science, or general arts subjects) and membership of the corporate bodies of insurers, actuaries, and statisticians. Obviously the executive council service is not large enough and cannot offer sufficient career prospects to its best staff to insist that they train exclusively for executive council work. It should also be said that, admirable though these training initiatives have been, responsibility for their day-to-day administration rests largely upon the enthusiasm and voluntary efforts of two serving Executive Council clerks—one in England, the other in Scotland.

For senior staff (clerks, their deputies, and a few senior administrative officers) there are programmes organized in conjunction with the Nuffield Provincial Hospitals Trust, the Kings Fund, and the universities. Some of these offer opportunities to join courses on management appreciation alongside senior staff from other sectors of the NHS. Senior officers may also take advantage of unique secondment arrangements with Central Departments, hospital boards, and local health authorities. But such schemes are severely limited in practice by the size of most employing authorities and by their inability, even for a short time, to do without the services of their most senior officers.

There is thus an important body of staff, specialized in a unique range of functions, whom the Association of Executive Councils has done a great deal to make more professional. But the system within which they operate is essentially incompatible with effective staffing structures and procedures.

Having examined the manpower problems and activities of the various employing authorities, we may now look more generally at the present situation. First, there have been references at various points to problems of recruitment. As far as clinical personnel are concerned, it is difficult to generalize about the recruitment position over the NHS as a whole. There may or may not be an over-all shortage of doctors, but there are certainly acute shortages in particular fields of medicine and in some areas of the country.

There is less controversy about the shortages of nurses, but again the scarcities are chronic for particular sectors of the NHS (such as geriatric and mental hospital nursing). Thus the problem in both cases is partly one of maldistribution in recruitment and deployment, and it would not necessarily be solved by increasing total recruitment, particularly as doctors and nurses have the option of emigrating rather than accepting uninteresting posts in unattractive areas of Britain.

Serious problems of recruitment exist among administrative personnel. Medically qualified administrators are in short supply, with the Central Departments, hospitals, and local government competing for those available. Nothing has so far been done to implement the recommendations of the Mallaby Committee on the organization of a co-ordinated recruitment, training, and deployment scheme, except that another committee has now submitted its report on this problem to the DHSS. Where lay administrative staff are concerned, the admitted shortages do not take account of the fact that some posts have had to be filled by under-qualified or inadequately trained personnel.

For an explanation of some of these recruitment problems we must turn to the second recurring theme, that of salary and career structures. There can be few large organizations, public or private, in which salaries are so unrelated to service provided or responsibilities assumed as is the case in the NHS. The doctors, especially young hospital doctors, do not lack spokesmen or public sympathy. But there is less concern about the position of non-medical administrative, technical, and ancillary staff. Even more than in local government, there has emerged in the NHS a tradition of underestimating the contribution of such staff and of paying them accordingly. Until very recently the most senior appointments in the hospital administrative service and executive council service carried salaries which compared very unfavourably with those paid to clinicians. Moreover, there are still echoes of early assumptions that the secretary to a regional hospital board should not earn more than an assistant secretary in the Civil Service, nor a senior medical officer more than a consultant. Finally, all NHS salaries compare unfavourably with salaries for posts of comparable responsibility in industry, and this extends even to the trainee grades.

Career-structures for lay staff are often quite inadequate,

especially for specialized administrative and technical personnel. For those with alternative career opportunities (computer staff, financial administrators, architects, engineers, etc.) the result is rapid turnover and steady drift from the NHS. Even within the hospital service, where career prospects are greatest, there is an annual loss rate of 25 per cent of recruits to career grades *after* completion of basic training programmes. The problem exists for the NHS as a whole and perhaps it can only be solved by a Service-wide scheme to co-ordinate recruitment, deployment, and careers.

Within the medical profession a cleavage exists between doctors who choose clinical practice and those who make a career in medical administration. Local authority and hospital service medical administrators enjoy far less satisfactory salary and career structures than their clinical brethren. The Todd Commission and the subsequent Cogwheel and Brotherston Reports on medical education and the organization of medical practice have attempted to define a more coherent career structure for medically qualified administrators, in terms of a 'community medicine' specialty. But, as all three reports make clear, the success of such a proposal would depend upon a fundamental change in attitude within the profession. This would have to be reflected, in the first place, in profound changes in both undergraduate and postgraduate training. Reactions to the Salmon Report (6) on nursing did not encourage belief in the adaptability of the medical profession, in the short term at least.

The third problem-area is that of training. Despite the lack of direction or even encouragement from the centre, real progress has been made within the NHS, with the hospital service leading the way in the provision of work-related training. Unfortunately the tripartite nature of the present structure has prevented the co-ordinated development of training programmes or the optimum use of limited training resources. It has in large part been left to the foundations and other outside bodies to arrange a variety of 'project-orientated' courses on a joint basis. With a few exceptions there has been no organized system of secondments and transfers within the NHS, although there is certainly a good deal of unplanned mobility and some 'poaching'. The training and post-entry experience of staff in Central Departments has never been co-ordinated with that provided by the 'field' authorities. A limited exception exists in regard to medical officers, but even this second-

ment scheme is not organized on a systematic basis or with any clear objective in view. A number of regional hospital boards, giving evidence before the Fulton Committee (18), considered this lack of interleaved experience at central and local levels a significant factor in explaining the failure of the NHS to develop a coherent manpower policy or to offer attractive career prospects to staff.

In general, the post-entry training of administrative, technical, and ancillary personnel does not provide a narrow range of information and skills uniquely relevant to health service employment. Instead it is based upon a 'spread' of work-related information and the gathering of widely accepted qualifications from incorporated professional bodies. We have already commented on the extent to which administrators are torn between narrower courses suited to NHS work and broader qualifications which can be used to move into other sectors of employment. With the considerable uncertainty caused by imminent reorganization in both local government and the NHS it is likely that options will continue to be kept open in this way. In any case, it seems certain that most training programmes for non-medical personnel will continue to develop outside the universities. This contrasts with the training of medically qualified administrators, where the tradition has been that of following a postgraduate academic course. Recent proposals for developing a speciality in 'community medicine' have begun from the same assumption. This distinction between university-trained personnel and others compounds the many problems of status which exist in any 'professional-intensive' organization.

It is obvious that not all training problems can be solved by greater central control and co-ordination, since many are deeply embedded in the complex social structure of the medical community. But more could and should have been done by now to overcome the problems created by the fragmented administrative structure of the NHS and its various sectors.

Finally, there is the question of manpower intelligence, co-ordination, and forward planning for the NHS as a whole. No central personnel agency has existed for the greater part of the NHS's lifetime and, although the recent data-gathering activities of the manpower branch of the DHSS are to be welcomed, there is still little evidence of any more positive leadership from the Central Departments. We have found in our research and in dealings over a longer period with the NHS that there are surprising gaps in man-

power and other information. When asked to advise or participate in teaching programmes we have often been aware that the necessary job-analysis (especially with regard to administrative content) has not been done, so that the design of curricula is unnecessarily difficult. Such training programmes as exist often seem to overlap or duplicate one another in a rather wasteful way, at the same time as it is possible for training gaps to exist for particular groups of personnel. If there is central monitoring of the need for training and of the actual costs, quality, and relevance of the courses provided, then it must be remarkably discreet as we have rarely encountered it. These may seem harsh criticisms, and again the point must be made that, in our view, the planners and administrators are being asked to operate a system which is structurally unsuited to effective manpower planning or management.

Towards a rational staffing structure

So far we have been talking in descriptive and critical terms about the staffing situation in the NHS as it is now. In a later section of the paper we shall be discussing, in more speculative but still critical terms, the situation as it might be in a Service reorganized along the lines proposed in the Consultative Document of May 1971 (10). But criticism implies a view of what ought to be. At this point, therefore, we propose to set out, very briefly, the principles of a rational staffing structure as we see them.

First, we assume that problems of manpower planning and management can be dealt with satisfactorily only within a unified Service. The tripartite structure has emerged from our preceding analysis as the largest single obstacle to the effective recruitment, training, and deployment of NHS personnel. In staffing terms, what is required is the creation of a 'Health Service' which will at least approach the unity of the Civil Service and certainly exceed that of the Local Government Service.

Second, while working towards the abolition of divisions based upon 'employers', it will be even more necessary to build into the unified Service a clearer distinction between 'levels' of organization. At each level certain types of activities will be performed, the whole adding up to the personnel function. How many levels or tiers of authority will be required is a matter for detailed analysis and dis-

cussion: as a minimum, however, there will be a national level of organization for staffing purposes and, at the other extreme, an operating level of administrative action and co-ordination 'in the field'. Between these two, there will have to be at least one intermediate tier, probably defined in terms of a regional authority.

How the various staffing activities ought to be distributed between these national, regional, and operational authorities is, of course, a matter of opinion. It is perhaps by over-reacting against the lack of central leadership and planning which we have observed in the present system that we incline towards a generous interpretation of the powers required at the national level.

Third, it is necessary to analyse and categorize the many functions or activities which go to make up the basic personnel function. It is in terms of a very broad and preliminary functional analysis that we have attempted to structure the remainder of this section of the paper. We regard the main functions as: (1) objective-setting, (2) data-gathering and intelligence, (3) planning, (4) recruitment and career-management, (5) training, (6) deployment, (7) pay-settlement and staff relations, and (8) management services.

OBJECTIVE-SETTING

The objectives of the NHS can only be defined at the national level. At that level, too, there must be a staffing agency capable of interpreting organizational objectives in terms of their demands upon manpower. To meet these demands becomes in turn the objective of the national staffing agency. Such serial exercises in objective-setting can only be performed at the highest organizational level. However, it will be necessary at many points to consult both the regional and the operational authorities and they will have to be capable both of helping to define broad national objectives and of pressing for variations from the national pattern of priorities in order to meet peculiar local or regional circumstances.

DATA-GATHERING AND INTELLIGENCE

Once the objectives of the organization have been determined, it is possible to estimate the demand for different types of manpower which will be generated, and to set such assessments of demand against projections of manpower supplies. This sort of data-

gathering exercise is essentially cumulative and much of the responsibility for compiling the necessary data is bound to lie with the operational and (especially) the regional levels of authority; but only a vigorous 'intelligence branch' within a central staffing agency can initiate and co-ordinate the data-gathering exercise or collate and interpret the resulting mass of data. Only at the national level, too, is there likely to be either the will or capacity to monitor those changes in the practice, organization, and social setting of medicine which the Todd Commission saw as factors influencing future patterns of demand for medical manpower.

PLANNING

If an imbalance is predicted between manpower supply and demand, and if it threatens to obstruct the achievement of an objective, then a corrective strategy is required. The term 'planning' is used by us to refer to this type of strategy although, by a broader definition, it might be held to include the activities of objective-setting and data-gathering. There seems no substitute for a strong national agency in the formulation and implementation of plans; although again the regional authorities have a useful part to play, particularly in monitoring the progress of plans.

RECRUITMENT AND CAREER-MANAGEMENT

The particular recruitment needs of regions and operational areas must be decided, in large part, by the authorities at these levels; many promotions are decisions to be taken at the operational level, with the region taking responsibility for maintaining parity, avoiding blockages and, possibly, hearing appeals from those passed over; staff reporting and record-keeping are also activities in which an important part must be played by the lower tiers.

However, there are many basic decisions about career-structures in a unified Service which can only be taken by the national staffing agency. Problems of comparable grading and remuneration which are already troublesome in the tripartite NHS will become even more pressing within a common system of employment. But unification brings opportunities as well as problems, and again many of these can only be seized by the national agency. They include opportunities to implement a common recruitment scheme for

medically qualified administrators, for example, or to develop a Service-wide scheme of planned postings and secondments for certain categories of employees. Also the national authority must analyse the needs of the new Service for very senior administrators, recruit suitably qualified people to these posts, and retain their services by providing the most attractive careers possible.

TRAINING

Many educational and training activities are best performed at the lower levels of multitiered administrative structures. These include selection of personnel for training, provision and staffing of many types of courses, and relations with professional and educational institutions within the region. But the attempt to rationalize a training system as diffuse and fragmented as that which will be inherited by the unified Health Service can only be made at the highest level and must be related to the functions of objective-setting, planning, recruitment, and career-management.

If we take health service administrators as an example of what is involved in developing a training strategy, we suggest that the central authority would have to take steps: (1) to define the various levels and categories of administrators within the unified Service, including clinicians whose work had a high administrative content; (2) to make job-analyses of a large sample of administrative posts, in order to identify relatively homogeneous groupings of activities within medical administration; (3) to make an inventory of existing training courses, including some assessment of costs and quality as well as content; (4) to identify cases of unmet training needs on the one hand and unnecessary duplication and fragmentation of training effort on the other—including duplication of courses provided for personnel outside the NHS; (5) to prepare as a consultative document a comprehensive scheme of courses designed to meet the needs of identified groups of administrators; (6) to implement the agreed scheme by maximum publicity and by making certain appointments and promotions conditional upon attendance at appropriate courses.

Should an NHS staff college be part of the training provision at national level? The attractions are obvious: courses could be designed specifically with the needs of NHS personnel in mind, case-material could be developed for in-service training, courses

could be organized in a logical sequence, and so on. Above all, perhaps, the staff college would be a symbol of a unified Service and a meeting-place for personnel with shared interests, so that it might do a great deal to develop an *esprit de corps* within the NHS. But there are counter-arguments, not least the seeming waste of resources involved in adding another public sector training establishment to the existing Civil Service College, with the possibility of a third staff college for local government employees. While the money for several staff colleges could no doubt be found, we have serious doubts about the availability of instructors of sufficient quality to man all three. Many of the people with relevant skills are already employed by universities and business schools and, since most prefer to combine teaching with research and the freedom of academic life, there is no guarantee that enough of them would be attracted to the more intensive (and repetitious) teaching involved in staff college work. To duplicate the courses offered by the universities would, however, seem a particularly wasteful use of public resources.

The case for an NHS staff college should therefore be considered very carefully and in terms of a much more searching job-analysis than has so far been attempted. If the training needs of NHS personnel overlap to a considerable extent with those of civil servants, social workers, and even businessmen, then there is no real case for a separate staff college. To make the case, it will be necessary to demonstrate a range of training needs peculiar to the NHS. Where commonality of training needs can be established, there is an obvious case for joint training programmes in order to make the best use of scarce training resources. But economy must not be achieved at the expense of relevance, which is tied to particular training requirements. To determine the balance between commonality and particularity we think there ought to be an independent investigation commissioned by the national staffing agency.

Having decided who should teach whom, there is still the question of *what* should be taught. The national authority should take a much more active interest than it has so far in matters of curriculum design and development, especially as these must be linked to prior job-analyses. We are particularly aware of this problem in the field of management training. Employers are usually favourable to the notion of training managers but remarkably unspecific about

what they should be taught. One version of a curriculum in 'Administrative Theory' is attached as an Appendix to this paper. There is no suggestion that everyone, or anyone, should be taught the entire contents: but it can be viewed as a shop-window for the informed and selective buyer.

STAFF DEPLOYMENT

The operational and regional authorities should, as far as possible, be free to employ and deploy staff as they think fit. When certain categories of staff are in very short supply, however, it may be necessary to have some sort of national quota scheme, possibly combined with a system of salary differentials to attract staff to the less attractive regions or types of employment. In a unified Service, moreover, it may be appropriate to have a system of staff inspection, in order to ensure, for example, that the actual job-content of posts within a given category does not vary too widely and that posts are being filled by people with roughly equivalent qualifications and experience. Any such inspectorate should certainly be employed by the national authority. Finally, there is a need, at the national level, to monitor changes in medical practice and technology and to relate these to any necessary changes in staffing combinations and patterns of deployment.

PAY AND STAFF RELATIONS

Discussions and negotiations about conditions of work and many other issues of employer/staff relations should be conducted at the operational level, possibly with provision for appeal or conciliation at the level of the region. But in the early years of a unified Service there would be many problems about 'internal relativities' and 'fair comparisons' which would have to be resolved at the national level. It is highly unlikely that a single staffing agency would be able to establish itself as spokesman and negotiator for the 'employers' side' in dealings with both medical and non-medical staff, but it could certainly make its presence felt and carry out its own research into such matters as payment systems, productivity agreements, and so on.

MANAGEMENT SERVICES

In both the public and private sectors it is increasingly the case that those responsible for manpower questions are also active in promoting the fullest knowledge and use of modern management techniques, especially those associated with work study, organization and methods, operational research, management by objectives, and information systems. All levels of authority should be active in developing and disseminating such techniques, but the national authority has a particular responsibility for ensuring that 'best practice' procedures are adopted throughout the NHS.

A national staffing agency

We obviously take what many will regard as an over-generous view of the place for national leadership and co-ordination in a reformed staffing structure. But what form should a national staffing agency take? Speculation on this subject cannot be as abstract as in the preceding section, and more account must be taken of existing arrangements and the expectations of both employers and employees.

The machinery on which it would be relatively easy to build is, of course, the manpower branch of the DHSS. Could this be developed as a staffing agency for the NHS as a whole, while remaining within the Central Department? From the point of view of a unified Service there would be advantages in such a system. But a practical difficulty would be civil servants' fears (clearly expressed in evidence to Fulton) that such an arrangement would affect their career prospects within the Civil Service as a whole (where easy movement between departments is an important, if partly mythical, characteristic of the Whitehall career). Conversely, there would be fears among employees of the present NHS that civil servants would be favoured for the key appointments in the reorganized NHS.

An alternative to the creation of a division within the Central Department with over-all manpower responsibilities might be the creation of an executive board, composed partly of civil servants and partly of NHS officials. Its chairman could be a civil servant of senior rank to emphasize the continued responsibility of the

Minister for the Service. The board's remit might extend to 'common services' (building, design, management services, etc.). Members would be chosen to represent all skill groups and professions concerned. Manpower and staff development would be the responsibility of only one or two divisions and the heads of all divisions would constitute the board. The executive board could produce an annual report separate from that of the Department to record its activities and the advice it had offered to the Minister. At the outset, the board's manpower divisions would incorporate the existing pay and research divisions of the Central Department, and the officers of the National Staffs Committees and the Advisory Committees on Engineering and Ancillary Staff Training.

A third possibility is the creation of a national staffs commission, independent of the Central Departments, and essentially interest-based and representative in character. The main argument for such a body is that it would work towards a genuinely unified Service by consultation and consensus. But there is no way of knowing how long this process would take. Also, short of seconding the existing manpower branch of DHSS to its service, it is difficult to see where the commission would look for expert full-time staff. Above all, would such a body be able to exercise real influence on manpower planning and utilization throughout the Service? What would be the attitude, for example, of clinical personnel or, for that matter, of civil servants?

There remain two alternatives which, it must be said, are unlikely to be acceptable to any government at the present time. However, both have been advocated by interested parties and should be noted. The first would place a unified Service upon the same footing as a nationalized industry, with ministerial responsibility for broad policy but day-to-day administration (including most staff arrangements) in the hands of an autonomous managerial board. The analogy is not a good one, however, if only because the NHS lacks an independent source of revenue. For this and other reasons, the Service cannot expect to be given the status of a public corporation.

Finally, what of the simplest solution of all, by which the entire NHS would become part of the Civil Service and its employees civil servants? The national staffing agency would then be the Civil Service Department, with a wide range of skills and facilities at its disposal and the full authority of the Cabinet behind its efforts

to achieve a genuinely unified Service. There is no point, however, in speculating about the reactions of clinicians and others to the prospect of becoming civil servants, since it is quite beyond belief that any Government would be prepared to add several hundred thousand new members to the Civil Service. It may be absurd to make the number of civil servants (as opposed to public servants) a political issue, but it is certainly one at the present time.

In practical terms, the form taken by any national staffing agency is likely to be one of the first three listed. Since the executive board contains elements of the other two proposals it might be seen as the strongest runner at the present time. As will already be obvious, however, it is impossible to reach any firm conclusion about the staffing apex of the reorganized NHS until we know more about the substance and implications of the proposals for reorganizing the NHS as a whole, and it is to these that we must now turn.

Implications of reorganization

Our assessment of the Conservative Government's reorganization proposals[1] is made with reference, on the one hand, to our criticisms of the existing staff situation, and, on the other, to our own version of a more rational staffing structure.

There are several features of the Consultative Document of May 1971 that we welcome. First, the emphasis upon coupling a unified Health Service with integration of the social work and related services of local government. For this reason the boundaries of the new second-tier area health authorities are to be coterminous with those of the new local government counties and metropolitan districts envisaged in the White Paper on Local Government Reform. The Department has set up a working party to devise means for effective collaboration at local and regional level. It will

1. These apply only to the structure of the NHS in England. Proposals for Scotland and for Wales have been made separately. The Scottish consultative document shows no major divergence from the Scottish Green Paper published in December 1968 (9). It tentatively proposes a structure in which most management responsibilities will be exercised through twelve to fifteen area authorities, with a common service agency to provide specialized services—including the training and development of administrative staffs—and a representative central health service board to advise on the planning of services.

also include, in the review now being undertaken of its own internal organization, consideration of how health and social services might be more effectively planned and co-ordinated at national level.

Second, much higher priority is given to the need for efficiency in the management of the NHS and to devising a structure in which 'clear definition and allocation of responsibilities' and 'maximum delegation downwards' will be matched by 'accountability upwards'. The major step in this direction is the decision to establish a clear chain of command from the Central Department through the fifteen regional health councils (originally proposed as advisory agencies in the 1970 Green Paper (8)) to the seventy or so area health authorities (outside London). This in turn implies that greater importance will be attached to the role of officers in the NHS with some alteration in the respective roles of elected and appointed bodies. Henceforth it seems that the representative function will be clearly divorced from the managerial function and exercised primarily through national, regional, and area professional advisory bodies and through local health councils, composed mainly of consumers of services, within each area.

The Consultative Document is less positive or, at least, less informative about matters more directly related to staffing. A good deal is said about the contribution of an integrated service to great co-ordination and flexibility in the use of staff and other resources. But there is no indication of how movement through the Service is to be achieved, nor any specific provision for rationalized career-structures or common recruitment and training programmes. In terms of a unified Service there is actually, as in the Green Paper of 1970 (8), a regressive provision for area authorities to set up new general practice committees which will, for all practical purposes, be the old executive councils under a new name. Both GPs and the supportive staffs of executive councils will continue to live a largely separate existence, since it seems inevitable that the GP committee will constitute a separate employing authority for administrative as well as medical staff.

As far as the levels of authority in the new system are concerned, we agree with the provision for three levels linked in a single chain of command. But there is very little indication of how functions will be distributed between these levels. To give the national authority as wide a range of functions as we have proposed would almost certainly have required a firm statement of intention to that

effect, but we see no such statement (or intention) in the Consultative Document. This is not encouraging, in view of the inadequate part played by the Central Department in staffing matters since the inception of the NHS. It is easy to say that the *capacity* for national planning and co-ordination will be greater in an integrated Service; but there must also be the *will* to lead, and this seems markedly absent from the Consultative Document.

Some of these omissions are explained, if scarcely excused, by the announcement in the Consultative Document that the whole question of staffing is to be the subject of a separate study extending to all aspects of management in the new Service. The proposals of the study group will have to be made known long before April 1974 (when the reorganization scheme will take effect), in view of the lags between investigation, action, and effect, in the field of manpower. We must hope that their deliberations will go ahead rapidly, in view of the size and complexity of the problems which they face. We shall not reiterate our own version of these problems, much less our various reform proposals; but we hope that the study group's early agenda will contain some at least of the issues that we have raised in this paper.

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Appendix

A note on administrative theory

L. A. Gunn

The following is one possible classification of the main aspects of administrative theory:

A. Organization theory.
B. Personnel management.
C. Information management.
D. Decision theory.
E. Financial administration.

Each of these general headings may be broken down by sub-headings. The list below is meant to be illustrative only:

A. Organization theory

1. CLASSICAL THEMES
   (*a*) Modes of specialization.
   (*b*) Staff and line.
   (*c*) Generalists and specialists.
   (*d*) Centralization and decentralization.
   (*e*) Co-ordination.

2. HUMAN RELATIONS THEMES
   (*a*) Informal organization.

(*b*) Group values, goals, norms, etc.
(*c*) Leadership, motivation, morale.
(*d*) Role of the supervisor.
(*e*) Professional-intensive organizations.

3. SYSTEMS THEMES
(*a*) Systems and subsystems.
(*b*) Decision areas.
(*c*) Information needs and flows.

This is perhaps a rather 'academic' way of approaching the study of organizations. A more prescriptive (or 'cookery-book') approach is found in 'organization and methods'. The official (Treasury) definition of O & M is:

> the activities of specialized staff who advise management on questions of organization and methods so as to increase efficiency either by providing a better service or a cheaper one or both . . . dealing with such matters as the division of work, the delegation of authority, the line of authority, the span of control, functional organization, co-ordination, and centralization vs. decentralization . . . or more generally, with the structure of an organization, its management and control, and its procedure and methods.

B. Personnel management

There is a good deal of disagreement about what should be included under this general heading. Also there is some overlap with organization theory. At the 'supervisory' level, the following are listed by M. Williams as coming within 'the scope of the personnel function':

1. Estimating manning requirements.
2. Recruitment, selection, and placement.
3. Wages and salaries.
4. Industrial relations and joint consultation.
5. Training and education.
6. Staff reporting, assessment, and development.
7. Safety, health, and welfare.

Some of the modern 'techniques' associated with performance of these 'functions' are:

(*a*) Staff inspection (or survey).
(*b*) Job description and evaluation.
(*c*) Executive development.

Again it must be emphasized that these are only illustrations. Almost all the functions noted above (for example, staff selection, reporting) involve the exercise of a wide range of skills, many of them coming within the professional competence of personnel officers.

C. Information management

In the last few years this has come to be identified as a separate field, although it is still a little difficult to know what it includes. Some of the possible subheads might be:

1. Defining information needs.
2. Cost analysis.
3. Statistical analysis.
4. Surveys and projections.
5. ADP and EDP.
6. Classification and retrieval of information.
7. Record-linkage and co-ordinate indexing.
8. Imparting information—the communications process.
9. Flowcharts, algorithms, etc.
10. Information needs and organizational structure.

This may well seem an important area of training for middle-management, but it is difficult to find a level of exposition which is neither too technical nor too general.

D. Decision theory

Again, this is a large and expanding field, which, at its most technical, can demand advanced mathematical skills. In very simplified form, we can make a preliminary distinction between *strategic* and *tactical* decision-making. The former is concerned with major questions of priority, related to the ultimate objectives of the organization. Tactical decisions are concerned with secondary matters, such as the merits of particular programmes or pro-

jects, or the cheapest and most effective way of achieving a given objective. For middle-management courses we normally concentrate on tactical decision-making.

Next, we must note that decision-making rarely consists of a single act of choice but is a *process* with definable stages. My version of these stages is, in outline, as follows:

1. Project-nomination (awareness of need to be met or objective to be served).
2. Initial assessment of project cost/benefit/feasibility.
3. Alternative projects/routes to objective defined, assessed, and compared.
4. Several options allocated resources and carried foward until comparative cost/benefit/feasibility factors clearer: resources then concentrated on preferred option.
5. Resources (physical, financial, human) mobilized around chosen project, with forward planning where feasible.
6. Running control—i.e. blueprint created (targets, standards, schedules, costs) and actual progress continually checked against it: involves constant analysis, measurement, reporting, action.
7. Interim evaluation—review at predetermined points in project's life of actual progress and reassessment of project's priority.
8. Terminal evaluation—learning from experience how to improve future decision-making.

In its emphasis upon target-definition and constant control and feedback, this model has something in common with what is now called *management by objectives*.

Each stage in the decision-making process has its characteristic problems and associated 'tools of management'. Some of the latter are (or appear to be) fairly straightforward, such as the various methods of *costing*. Also the aims of *cost-effectiveness analysis* seem obvious. The more complex techniques are concerned with comparative assessment of cost/benefit/feasibility of competing projects. A straight financial and economic assessment of projects is usually termed *investment appraisal*, and several methods of appraisal exist, of which perhaps the best known is *DCF* (*discounted cash flow*). In the public sector, however, it is necessary to take some account of *social* costs and benefits, and methods of quantifying and comparing these have been developed in modern *CBA* (*cost-benefit analysis*).

Apart from problems of choice, there are many difficulties involved in planning and controlling the implementation of complex programmes. The relevant aids to management are such techniques as *Network Analysis*, *PERT*, and *CPM* (*Critical Path Method*) (in fact, there is considerable overlap, and Network Analysis is often employed as a generic term). The Treasury definition is: 'methods of planning the undertaking of a complex project in a logical way by analysing the project into its component parts and recording them on a network model or diagram which is then used for planning and controlling the inter-related activities in carrying the project to completion'. Such techniques can be employed for many purposes—for example, a recent CAS pamphlet deals with network methods in setting up a new government department.

Not all decisions concern new projects: in fact most of what we call 'management' is concerned with improving existing systems. The techniques of *OR* (*Operational Research*) are particularly relevant here, although OR can also be used in helping to assess new projects. The Treasury definition of OR is 'the application of scientific processes to operational problems arising within organizations, the objective being to make more effective use of known facts, to enlarge the proportion of factual knowledge and to reduce the proportion of subjective judgement in making management decisions'. The OR techniques (linear programming, queuing theory, etc.) have a mathematical or statistical basis and frequently involve the construction of a model and simulation of various problems and methods of solving them.

At a much more modest level there are the various methods of improving operations known generically as *Work Study*, including *Work Measurement* and *Method Study*. These are usually (though not exclusively) applicable to routine industrial and clerical operations. A knowledge of what such studies can offer is perhaps more immediately relevant to the middle-level manager although, as the variables increase and the organization grows and becomes more complex, the contributions of OR specialists will also be seen to be of value.

The aim of most courses is usually to teach an *appreciation* of these various techniques (their limits as well as their potential) rather than to *train* general administrators in their use.

E. Financial administration

Clearly students of administration should have some knowledge of *the financial cycle*:

(i) Preliminary estimates.
(ii) Budget (final estimates).
(iii) Expenditure.
(iv) Income.
(v) Accounting for expenditure and income.
(vi) Budgetary control.
(vii) Accounting report for the year.

They should also have some knowledge of the management of capital expenditure.

Whether teaching should go beyond *information* about the 'financial framework' to *training* in the associated techniques is a point for discussion. Courses for general administrators often focus on the preparation of budgets and examine some of the more fashionable concepts, such as *budget centres*, *output budgeting*, and *planning-programming budget systems*.