Published by King Edward's Hospital Fund for London

HEALTH SERVICES PLANNING

King Edward's Hospital Fund for London

Patron: Her Majesty The Queen

Governors: HRH Princess Alexandra,
The Hon Mrs Angus Ogilvy GCVO
Sir Andrew H Carnwath KCVO DL
Lord Cottesloe GBE TD

Treasurer: R J Dent

Chairman of the Management Committee:
Lord Hayter CBE

Secretary: G A Phalp CBE TD

14 Palace Court London W2 4HT

HEALTH SERVICES PLANNING

a monograph from the department of community medicine,
St Thomas' Hospital, London

Edited by Karen Dunnell BSc(Soc)

Introduction by Professor Walter W Holland MD FRCP FSCM

Published by King Edward's Hospital Fund for London 1976

Designed by Steve Storr

Typeset in Compugraphic Century Textbook

Printed in England by PPR Printing Limited, London

ISBN 0 900889 61 6

Distributed for the King's Fund by
Pitman Medical Publishing Company Ltd

ACKNOWLEDGMENTS

It is a pleasure to acknowledge the help received from staff of King Edward's Hospital Fund for London in the planning and preparation of this monograph.

Permission was kindly granted by Ferdinand Enke Verlag Stuttgart, to modify and publish the first paper, Planning for Health Services, the original German version of which appeared in *Handbuch der Socialmedizin*, Volume III, 1975.

KD
London
1976

CONTRIBUTORS

Andrew Creese MA MSc BPhil
lecturer, department of community medicine, St Thomas' Hospital, London

Brian L Donald BA(Admin) PhD FHA
senior lecturer in social administration, University of Manchester

Karen Dunnell BSc(Soc)
senior social survey officer, social survey division, Office of Population Censuses and Surveys

Charles du V Florey MD
senior lecturer, department of community medicine, St Thomas' Hospital, London

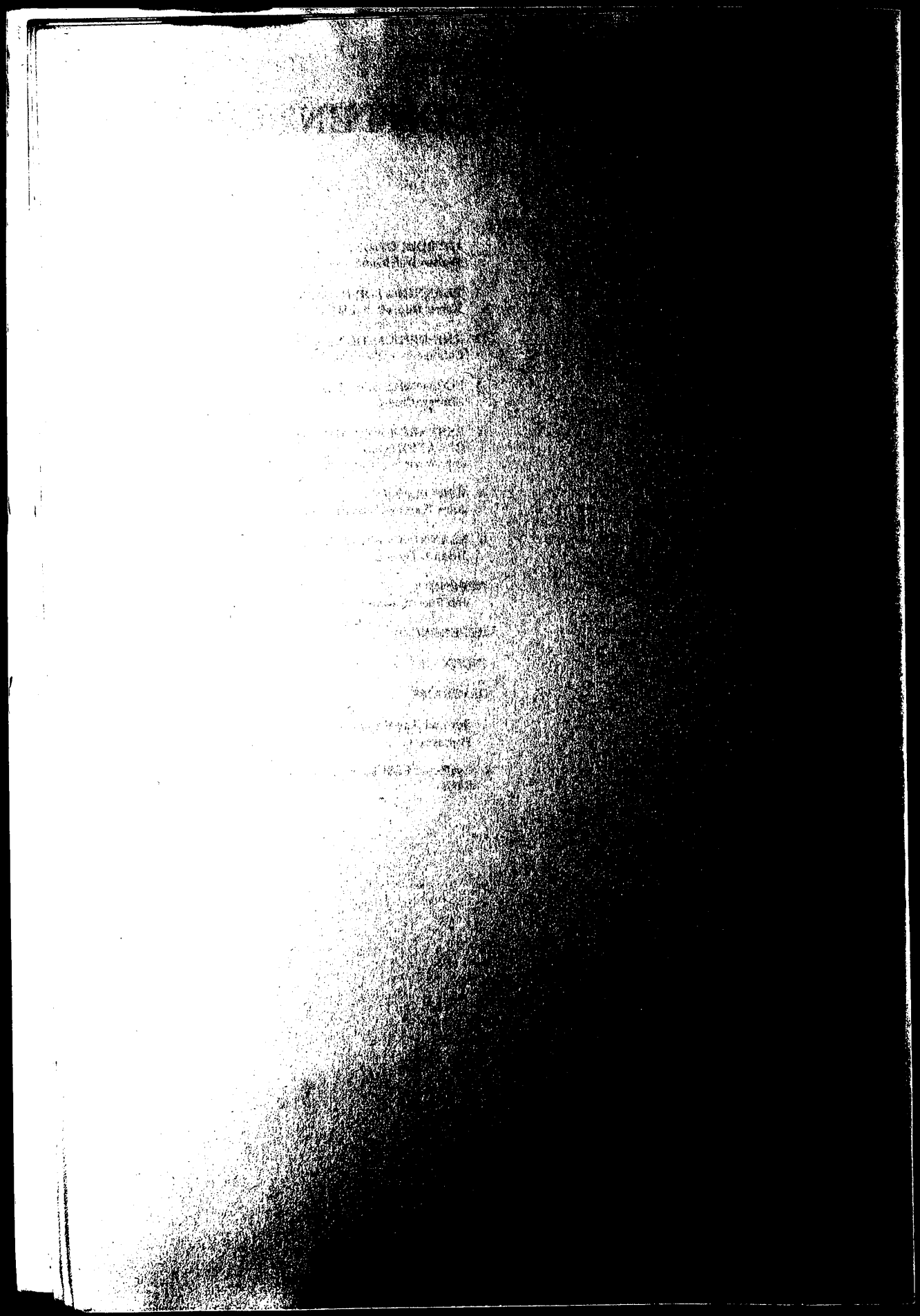
Walter W Holland MD FRCP FSCM
professor, department of community medicine, St Thomas' Hospital, London

Bryan McSwiney FHA
barrister-at-law

John Wyn Owen MA FRGS AHA
district administrator, St Thomas' Health District, London

Jean M Weddell MD
senior lecturer, department of community medicine, St Thomas' Hospital, London

CONTENTS



INTRODUCTION

Walter W Holland

Though we have had a National Health Service for 28 years, attempts at rational methods of allocation of resources have eluded us. The development of services has been piecemeal and past planning efforts, for example the prediction of future needs for doctors and the hospital planning of the 1960s, failed miserably.

With NHS reorganisation and integration of hospital, general practitioner and community services, it has become evident that we need to undertake a much more thorough appraisal of how to develop services than has been our custom. The Department of Health and Social Security has recognised planning of services as one of the keystones of the new management structure. Various directives have been issued on how this can be developed, and specific posts have been created for the purpose.

The department of community medicine at St Thomas' Hospital was set up in 1962 and since then has been concerned with trying to obtain data that are of use in planning health services. For five years, supported by the King's Fund, we undertook an experimental series of courses on how to plan and organise health services. The monograph *Resources in Medicine*, our first attempt to introduce the concepts more widely, resulted from the first course.[14] The courses took place before NHS reorganisation, and involved clinicians, professional administrators, nurses and medical administrators. Through the multidisciplinary nature of the department of community medicine we were able to expose a variety of disciplines to a number of health professionals. We have learnt through this experience those aspects of epidemiology, economics, and the social sciences that are applicable to the planning of services. It seemed that a small monograph might help others concerned with these activities.

Further, our research, supported by the DHSS, has illustrated the possibilities for applying findings in the improvement of services. But one of the findings in our work has been the difficulty of application. The problem is two-sided. Those responsible for services are often unable to pose questions that can be answered by research. On the other hand, many of the research findings are not applicable or relevant to introduction into practice. It thus became necessary to develop a closer link with those responsible for health services delivery at all stages of our research.

We were fortunate that the King's Fund again supported us in the experimental appointment of a senior administrator as a King's Fund Fellow, accountable to the clerk of the governors of St Thomas' Hospital who was responsible for all hospital services. The first holder of this post, John Wyn Owen, is now district administrator of the St Thomas' District Management Team. The experiment demonstrated some of the lessons of cooperation in research and administration. These are given in detail in this monograph.

The monograph also attempts to bring together, for all members of health care planning teams, but especially for administrators and community physicians, the nature and place of planning in the NHS, and its relationship to research and administration.

We feel it is important to acquaint our colleagues of the knowledge that we have gained over the last few years, and thus perhaps help them in overcoming more easily the obstacles which are apparent to all starting in this field.

1 PLANNING FOR HEALTH SERVICES*

Karen Dunnell and Walter W Holland

WHY PLAN?

'We plan in the belief that the future will be worse if we don't and better if we do . . . we look to planning . . . to avoid if possible, the sort of crisis problem which, when it occurs, is too late to be solved.'[48]

This implies that changes are, or will be, taking place that will make the future different from the present. One of the basic needs of planners is to be able to make projections about the future. In the main these projections have to be based on changes already taking place.

Population Structure

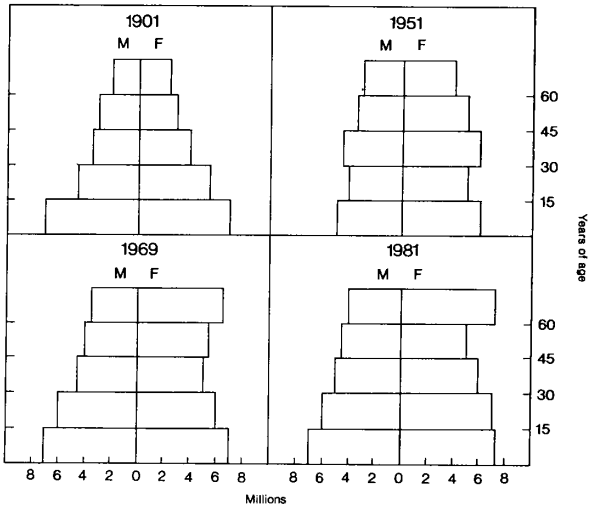
One of the most fundamental changes that has to be taken into account by planners of health services is demographic change. Virtually every country in the world has been, and is, experiencing total population growth. The world now contains an estimated twelve times the number of people it did in year AD 1. Three-quarters of this rise has taken place in the past 200 years, with a particularly rapid increase in the rate of growth since 1950.[9] The rate has not varied greatly in developed regions, but in underdeveloped regions it has risen steadily, with a sharper leap over the past 20 years. The rate of world population growth is determined by its two components—the birth and death rates. But the most important factor in the increased growth rates during this century is declining mortality.

A detailed history of this decline, which began in the 1870s in England and Wales, is given by McKeown.[60] He gives as the main reasons the reduction in deaths from infectious diseases beginning during the nineteenth century, and a reduction in mortality, particularly of infants, during the twentieth century. The three main factors in these reductions have occurred in stages. First, the improvement in the standard of living beginning around 1770; second, the control of the physical environment since 1870; third, specific curative and preventive therapy during the twentieth century. (See Diagram 1).

In developed parts of the world, declining mortality, especially among the young, has been accompanied by a fall in fertility. This has produced one of the most important demographic characteristics of industrialised societies—an aging of the population. The diagram shows this in the form of population pyramids, comparing the population of the United Kingdom in 1901 with 1951, 1969 and the current projections for 1981. As can be seen the elderly form an increasingly large proportion of the total population. In most underdeveloped countries death rates have declined, but they have not, in general, fallen as low as in developed countries. Fertility, on the other hand, has not altered appreciably and the resulting population pyramids are similar to that for the United Kingdom.

Diagram 1

SEX AND AGE STRUCTURE OF THE UNITED KINGDOM POPULATION



Source: General Statistical Office: *Social Trends*, No 1, 1970, Her Majesty's Stationery Office

Pattern of Disease

The control of infectious diseases such as tuberculosis, typhus, cholera and dysentery, and the reduction of infant mortality rates in developed parts of the world, have led not only to an aging of the population but to a change in the pattern of disease. People no longer commonly die from acute and infectious diseases either in infancy or early adulthood. These causes of death have largely been replaced by the modern epidemics of coronary heart disease and cancer. However, mortality data are not good indicators of morbidity, much of which is chronic and may only lead to death after a long time. Heart disease, diseases of the musculoskeletal system, bronchitis and impairments of the nervous system cause considerable disability from middle age onwards. The increased expectation of life results in an increase in the prevalence of the degenerative diseases of old age. A survey carried out in Great Britain in 1968 found that 38 per cent of people aged 75 or more, 22 per cent of those aged 65-74 and 9 per cent of those aged 50-64 had some kind of physical, mental or sensory impairment.[37] The United States Health Examination Survey (National Center for Health Statistics) showed that four out of five people aged 65 or more had some kind of chronic disorder.† Infant mortality has been reduced, but there has been increasing survival of small infants who are injured at birth or who are suffering from inherited conditions or congenital malformations. Many of these children are permanently handicapped by their mental or physical impairments.

* This paper is a modified version of one which originally appeared in German in *Handbuch der Socialmedizin*, Volume III, edited by Maria Blohmke, Christian v Ferber, Karl Peter Kisker and Hans Schaefer, and published by Ferdinand Enke Verlag Stuttgart, 1975.

† According to data from the health examination survey carried out by the National Center for Health Statistics, United States Public Health Service, Washington DC.

In underdeveloped countries, the pattern of death and disease is still one of high infant mortality and similar chance of death mainly from infections and nutritional disorders in each succeeding age group. As developing countries become able to control these, their patterns of disease will evolve like that of developed countries with chronic illness becoming more significant. Meanwhile, the populations of developed countries are aging further and chronic disease and disability form an increasing part of the picture.

Changes in the distribution of disease obviously mean that developments are required in the nature and organisation of health services. Of the developments in medical science that have contributed to the ability to reduce mortality, those in public health and preventive medicine have been paramount. Thus, for developing countries, the provision of a complete substructure of these services is necessary before infectious disease can be controlled. In the meantime, a supporting structure of curative facilities is needed to cope with the acute episodes of illness.

In developed countries, also, opportunities for further reducing mortality and morbidity lie mainly in prevention. Known treatments for cancer, heart disease and chronic bronchitis, for example, do not greatly affect prognosis whereas preventive measures could reduce the incidence of disease.

The problems of preventing these non-infectious kinds of disease, however, are many. The basic aetiology of disease is often unknown, though several factors are known to be involved. Increasingly, these factors are behavioural and environmental, such as smoking, eating and sexual behaviour, pollution of the air, land or water, and the motor car. These factors are as yet difficult to measure, and changing them is a more complex and difficult procedure than organising water and drainage systems and mass innoculations.

Not only does preventive medicine need to develop in response to the greatly increased prevalence of chronic disease and disability, but so do the caring and curative parts of health services. These kinds of disease processes require long term medical care. There may be occasional acute episodes that benefit from hospitalisation, but the main need is for care in the community so that people can live their lives as normally as possible. The type of care depends on the use of many different types of skilled people, and on having intermediate types of care in, for example, hostels, day hospitals, old people's homes, and industrial rehabilitation units. The organisation of an effectively coordinated medical and social care system of this kind obviously requires planning at a sophisticated level.

Family and Social Structure

As much medical care is given outside hospital, so changes in social and family structure may have implications for the organisation of services. Industrialisation and urbanisation tend, in all societies, to be accompanied by a change in family structure. The typical structure in pre-industrialised societies is that of the extended family where several generations and branches of the family live together. There are always plenty of relatives to care for the children, the sick or the old. The nuclear family, typical of industrialised societies, consists generally of parents and their children only. This, together with the aging of the population, means that old people are much more likely to live on their own or with people of their own age than with younger members of their families. Such changes in society, as well as factors like increased geographical mobility and a rise in the numbers of women who work outside their homes, may result in families being less able to care for the sick and old. This naturally has implications for the organisation of effective community care services. Extra people may be required as well as new kinds of non-hospital services like day centres for the elderly and attendants for the disabled.

Increased Demand

Not only is the size of the population to be cared for increasing in most societies, but the experience of the NHS in the UK suggests that demand for health care also continues to increase. When the NHS was introduced in 1948, it was thought that with the provision of 'full preventive and curative treatment of every kind . . . without an economic barrier at any point to delay recourse to it' the cost of the health services would decline as the nation became healthier.[41] This was a serious misconception.

Whereas by many criteria the population has become 'healthier', a comparison of two community studies at an interval of two decades shows similar morbidity levels. [57 82] An analysis of sickness absence levels shows that these are rising and suggests that threshold levels at which 'sickness' is turned into 'sickness absence' may be falling.[65] Seventy per cent more inpatients and 25 per cent more outpatients are treated in hospitals now than at the beginning of the NHS.

Also, expectations of both providers and consumers of health care are continually rising as developments in medicine provide more and better ways of treating disease.[82] Renal dialysis and surgical organ transplants are two very expensive forms of treatment that doctors may wish to have available for patients, and to which patients feel they are entitled. The rapidly expanding pharmaceutical industry has developed drugs for the treatment of every conceivable symptom and condition, most noticeably for minor psychiatric symptoms. Doctors are bombarded with large quantities of advertisements for different drugs which they then feel it appropriate to prescribe, and patients increasingly demand drugs for both serious and minor complaints.

Consumption of drugs is increasing at an even greater rate in some underdeveloped countries. The cost of drugs per person as a percentage of income per head, and the proportion of national income spent on pharmaceutical products, are considerably higher than in developed countries.[78] In terms of improving health status, the scarce resources used for drugs in underdeveloped countries could often be used more effectively if spent on preventive measures or simply on improving the standard of nutrition. However, it seems that in all countries developments in medical technology are hard to ignore—the medical profession can be seen to produce some spectacular results, and the public to obtain relief for their many symptoms if not cure for their diseases.

Increasing demand for services can also be brought about by the medical profession extending its role in a particular sphere. The provision of birth control services in Britain is a good example. The 1949 Royal Commission on Population said that 'the initial duty to give [family planning] advice should rest with the family doctor.'[42] The introduction of oral contraceptives since then has led to general practitioners playing a major part in prescribing them as they cannot be

bought over the counter like other contraceptives. Abortion, sterilisation and vasectomy are other forms of birth control increasingly used which require medical skills. All these practices have become more common in recent years because of changes in the law and pressure from the public and groups concerned with population growth and unwanted conceptions. These developments in birth control have led to people having to obtain professional medical advice and treatment in order to have effective birth control. These kinds of developments are also characterised by state health services taking over or supporting the private organisations that initiate them.

Increasing demand is a change which necessitates planning not only because more services will be required but because these will have to be met from limited resources.

Economic Reasons

It is not only the resources available for health services that are limited but also the total resources available for all services. Coordinated planning is necessary to determine the relative priorities of services such as health, education, housing and social welfare. The present interest in health planning derives in part from the lead provided by the more widespread planning for economic development. The cost of providing and operating a system of health services is now so great that in most countries there is a trend towards government intervention; private and voluntary organisations cannot provide the extra resources needed. Health thus becomes an increasing part of a nation's economy. It also becomes an important part because health is recognised as a major factor in the promotion of economic and social development.

Popov sums up the answers to the question, Why plan?

> *'The increasing complexity of medicine, the links between the social, economic, and cultural conditions prevailing in a community and its health status, together with the increasing use of economic planning have . . . made it both desirable and possible for . . . haphazard growth to be replaced by orderly and efficient development. In order to achieve this aim, health planning is necessary.'* [69]

WHAT IS PLANNING?

The term 'planning' can have different meanings. Here it 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 improvements, and how these changes can be implemented.'* [8]

In planning health services the process needs to be at different levels. For example, within the reorganised NHS, planning at national level is concerned with the overall administrative structure of the services, the general framework of policy, and broad allocation of resources. At area level it is more concerned with the detailed allocation of resources and the provision of preventive and curative services for the common acute and chronic conditions. Two levels of planning may, in practice, not be sufficient, and it may be necessary to have regional level planning concerned with coordinating area plans and providing services for less common health problems that areas would be too small to cope with economically.

Not only does planning have to be organised at different administrative levels of a health service, it also has to be concerned at each level with different aspects of the service. It is not just concerned with the provision of buildings, facilities and staff. It needs to be used in the design and implementation of policies. For example, at area level, health planning needs to be concerned with shaping the processes by which day-to-day practices adapt and change so as to add up to new patterns of care; it may have little to do with the provision of buildings, but much to do with the organisers, providers and consumers of the services. That this is so makes it very important that the planners are not detached from those who either implement their plans or will be affected by them. Planning should be a process of participation between planners, researchers, providers and consumers.

CONSTRAINTS ON PLANNING

A World Health Organization report defines constraints as

> *. . . restrictions imposed by society itself or imposed upon society by force, nature, necessity, circumstances, or the like. In relation to planning, constraints are those factors that influence the scope of planning and the boundaries within which the planning system operates.'* [90]

Economic

Governments and the public often accord a relatively low priority to health in relation to other demands on economic resources. The proportion of national resources devoted to health may be smaller than if the political decision makers had different priorities. One of the problems is that there are no clear criteria on which to base the distribution of resources.

The cost of disease to a society is very difficult to evaluate, as are the benefits arising from provision of services. In estimating costs, it is the indirect ones which create most problems. The most important of these is the reduction in length or quality of life because of ill health, obviously a very difficult and value-laden area in which to assign prices. Some progress has been made in costing part of this, namely the value of time lost from work. This is limited partly because a person's value at work may not be the same as his social value. There are also many people—children, housewives and old people—who are not in the labour force and the cost of their illness in terms of time lost would be difficult to measure. On the benefit side, problems seem even greater for there are factors, such as the patient's satisfaction with care received, to which it is unrealistic to assign even notional monetary figures.

These difficulties do not mean that no attempt should be made to carry out cost and benefit studies. In measuring those aspects of disease and treatment that *are* measurable and in developing ways of measuring others, much information will be provided which may prove useful to decision-making. But it is unlikely that all the information necessary for making decisions in a health service can be provided, as theoretically it could in industry and commerce where the one basic objective is profit.

Whether or not health has high priority in resource allocation, resources are always limited and this provides the ultimate constraint on health planning. However, as another World Health Organization report points out, broad economic principles are used by many countries to establish priorities within the health service.

'The emphasis on prevention rather than cure is one such principle. The cost of curative services for a disease can be saved if the incidence of that disease can be reduced or if it can be totally eradicated. Secondly, the common emphasis on saving the lives of younger people in whom there has been considerable social investment and who still have major contributions to make to production represents another choice. The choice of diseases that can be prevented at relatively low cost rather than those that can be prevented only at high cost is a third type of decision with an underlying economic motive. The decision to provide somewhat better health services in areas or for occupations where the loss of skilled manpower or of working hours is of greater value to the economy is a fourth example.'[89]

But priorities in health cannot be chosen solely from the point of view of economic viability. The decision to provide health services is essentially humanitarian, and aspects of welfare have to be considered regardless of the difficulty of measuring.

Aharoni in an analysis of the way in which a sample of American manufacturing firms decided to invest abroad, shows that even for these firms, who have a simple basic objective of profit, making decisions is a complex process which has to be seen in the light of the history of the organisation, and of the personalities and roles of the various people concerned.[4] He sees the decision process as a dynamic social one involving both positive influences and constraints.

He identifies five basic elements. First, the social system affects the way people in the organisation define problems, perceive alternatives and form opinions. Second, the time dimension; any one decision is part of a long process spread over a considerable time and this is affected by past and expected future events. Third, the factor of uncertainty which businessmen (and, one imagines, health planners) try to avoid as much as possible; they are only willing to take what are subjectively perceived as 'normal' business risks. Uncertainty calls for robust decisions and adaptiveness in planning. Fourth, Aharoni examines goals (without attempting to place values on them) and finds that many different ones influence behaviour. Finally, he considers constraints, that is, those variables which the decision-maker has to take as fixed for his purposes.

Bispham and her colleagues stress the importance of looking at decisions in the health field in this way.

'They should not be seen just in terms of an economic model of "rational" behaviour, but as decisions made in the face of imperfect knowledge about the present and even more so about the future; of constraints on available time and resources; and in the context of political and social pressures which affect the attitudes and opinions of all those involved. It might be particularly useful to examine initiating forces in the health field which could well parallel those in business, that is, partly coming from within the health service, but partly from the influence of pressure groups and public opinion.'[8]

Structural

Buildings, land, people and time are also limited. There is an absolute limit to these resources, but very often the constraints lie in their distribution or in their relationship with one another.

The move towards establishing large district general hospitals to serve a population now catered for by several smaller hospitals did not necessarily mean providing different numbers of beds or more or less space, but a way had to be found of replacing several small buildings by one large one. Similarly, a plan to provide a health centre in a densely populated area may be hampered by the lack of a convenient site. In rural areas, the site for a health centre may be easier to find but the population it will serve may be so widely scattered that for many patients the journey to the doctor would be too long and difficult.

The constraining effect of time is particularly noticeable in relation to the provision of new buildings. A large hospital may take 20 years from early planning to completion. If part of a service provision plan concerns the use of the new hospital, the stages of completion of parts of it have to be carefully worked out so that the best use can be made of what is available. The finished hospital will also, of course, have to be planned to cater for the health needs of the community 20 years hence. Past experience has often shown how buildings themselves create a constraint on the kinds of services that can be provided and changes that can be made. Old hospitals with large wards cannot easily be used effectively if other factors point to a substantial reduction in inpatient treatment and a complementary increase in outpatient care. The very nature of the building may seriously impede this kind of change.

The provision of staff is also closely linked to time. For example, a large increase in the numbers of practising doctors cannot be produced overnight. It can take 20 years to alter grossly the supply and specialties of hospital consultants, for example. Changes have to be made in postgraduate education. Certain specialties may have to be made more attractive to junior doctors. Medical schools have to be able to cope with a different number of students, which may involve employing already scarce people to teach them, and providing more buildings and equipment. Before this, schools have to provide enough young people who not only want to be doctors but are capable of achieving the academic standard required.

There are some measures that help in the short term—such as, encouraging married women to resume their careers, or recruiting from abroad—but mostly the problem of increasing the supply of staff involves such moves as providing more medical school places, encouraging more school leavers to take up nursing, training more people in paramedical work. These things take time—they also depend on the flexibility of educational systems.

Another important constraint is the administrative system. Until 1974, the NHS was administered in three separate parts; hospitals, general practice, and local authority services. The resulting overlap of function arose partly from a lack of motivation to coordinate within and between services, but also because of the very administrative structure. Where there are no formal routes for communication and coordination, inefficiency and thus wastage of resources can result.

While some improvement may come from the reorganisation, the administration will not be perfect. The system, its structure and development will still exert a constraint on planning, and operational policies will have to fit into a given administrative system.

Political and Social

Administrative structures also have a tendency to change frequently. A main cause of this is political. In two-party democracies such as the United States and some West European countries the political leadership of a country changes on average at least every ten years. One political party has policies and priorities different from the other and a new government is likely not only to change part of the organisation of health services, but also to change its commitments to support a plan. Political changes are among the least predictable and also have many implications for the provision of services. This is one of the main reasons why health planning should be flexible—its objectives as far as possible acceptable to all political parties and the implementation of changes feasible within different administrative systems.

The political system can further constrain planners of health services for a whole country by the degree to which responsibility and authority are centralised. For example, in the USA the entrenched belief in decentralised government may make interconnected planning very difficult as the different States are unlikely to see it as tolerable or even rational. Whereas in the USSR, where authority is centralised, the problems for planners will be different, though they may not be fewer.

To turn now to the ways in which the public can influence or constrain planning. A basic factor to consider is that people do not always think or choose rationally. The information available to them, their values, attitudes and personalities affect their behaviour in relation to health services. Much research in medical sociology aims to identify the extent to which these sorts of factors can explain differences in illness behaviour. Planners cannot just assume that a service which they think should be provided to benefit the health of the community will automatically be used. Social and psychological factors may render the service unacceptable to many, as the evaluation of cervical screening programmes has shown.[76]

There is little evidence that consumers are critical of the facilities. Cartwright has shown that most people in England and Wales think their general practitioner is a good doctor even though they choose him on grounds completely unrelated to his professional competence.[11] Blum has pointed out that

> *'Citizens in general do not usually know the possible choices from which they might make selections . . . most people could not or would not absorb information on the alternatives even if material on the subject were to be made available by the planning bodies.'**

Abel-Smith also remarks that

> *'We often have to fight the sentimentality of local persons who do not know hospital efficiency because they have never seen it.'*[1]

But an increasingly articulate population, and the growth of consumer organisations, have led to a demand for greater participation in making decisions which affect the consumer. The problems of reconciling continuous participation of a very heterogeneous population in the decision-making process with the management of increasingly complex organisations like health services are very great. As early as 1969, part of the suggested role of the community physician was that he should act as advocate between the public and any authority concerned with the planning or organisation of medical services. In this way the views of the community could be represented in making decisions.[63]

People tend to act through lobbying and political pressure more than through information and reasoning—or at least the former have been the methods to achieve greater success. Pressure groups brought the standard of care in geriatric and mental hospitals to the attention of government, the medical professions and the public.[72] They helped to liberalise the abortion laws.[44] They had great success in inhibiting planning (though not in the medical field) when airport sites recommended by a government commission had to be abandoned. Councils representing small neighbourhoods which are able to make known the community's feelings about planning have created precedents for consulting such groups before plans are finalised.

Not only do people have conflicting ideas about the kinds of health services that are most desirable, so do different parts of the medical and paramedical professions. This diversity of priorities may create difficulty in choosing objectives. The traditional division of the health professions into compartments, and the resultant lack of adequate interprofessional communication, may hamper operational policies.

Professional opposition to a particular plan may result in it being extensively modified or even not being carried out. Professional associations, royal colleges and medical representatives on executive and advisory committees in the NHS have a degree of power which they can use if they wish to the advantage of the profession—but not necessarily to that of the patient.

Perhaps the one constraint that overrides all others is the natural human opposition to change. Another, which not only reduces our knowledge of the extent of the other constraints but inhibits all stages of planning, is lack of information.

INFORMATION FOR HEALTH PLANNING

As we have seen, planning comprises several stages and kinds of decision making. Decision making can very rarely be completely rational, as Aharoni has shown. But a basic prerequisite is adequate information. This section looks at the types of data required for decision making in planning. It follows the three categories of information; population, resources, and need/demand, identified by Bispham and others[7], showing what is available (in England and Wales) for planning purposes and what other data are ideally required.

Population Data

Basic demographic, social and environmental data are needed to describe the characteristics of the population—size, density and distribution and likely health needs. The most basic of these data are collected by ten-yearly national censuses. These include information on age, sex, marital status, occupation and employment, educational attainment, geographical mobility, ethnic group, household facilities, household size and overcrowding, private transport. The information relates to individual households and their members.

* *Limitations and Hazards of Comprehensive Health Planning*, mimeograph (1969) by H L Blum, available from the department of community medicine, St Thomas' Hospital, London.

Census data are not collected continuously, therefore short term as well as long term population projections are required. Forecasting is especially important for areas in the NHS organisation; a rapidly developing area may not be following the national trends and short term planning of health services is needed. Bispham recommended that methods of population projection should be standardised for the country by a central body, that projections should be made for all areas and constantly revised.

Revision is made possible by data that are collected continuously. The most important are those collected from the compulsory registration of all births, marriages and deaths. These data not only aid the accuracy of projections, they facilitate the production of social and health trends which give a more specific guide to possible requirements.

Other data that could be usefully collected continuously are those on migration, both in and out of the country and internally. Losses and gains in populations, nationally and in areas, would be shown.

Cause of death recorded on death certificates is an important source of information about the way disease patterns of a country as a whole change, and about the outcome of changes in service provisions or in the environment. Two things would make this information even more reliable and useful. First, the information on which it is based—that provided by the certifying doctor—could be improved, extended and standardised. Second, multiple-cause coding would involve the solution of many technical problems but would add greatly to our knowledge of factors contributing to death. This has become more desirable with the increasing complexity of chronic disease.

However, mortality statistics are not the only routinely available data which give an indication of a nation's health. With the increase in chronic disease, mortality data become more unsatisfactory. For example, in developed countries where the number of deaths per year in the age range of one week to 55 years may be small, mortality rates are not likely to reflect the need or demand for medical care. In developing countries they may be bad indicators—for other reasons. The control of venereal disease, for example, may absorb substantial resources but only contribute to a small proportion of deaths. Morbidity data which, along with mortality data, create a more complete picture of ill health in the community, could be obtained from various sources: firstly, from records kept by general practices, health centres, hospitals and special clinics; secondly, from insurance and financing agencies (for example, causes of sickness absence); thirdly, from a special ongoing field survey, such as the survey of sickness carried out periodically in Britain from 1943 to 1952[57], and the health questions included in the General Household Survey which began in 1971.[36] From time to time, field surveys should be carried out to extend what can be gained from routine statistics and to make good their deficiencies. An example of these are studies before and after the introduction of a national sickness pension scheme in Finland.[70] They are especially useful for determining the incidence and prevalence of chronic conditions like bronchitis, hypertension, mental illness, musculoskeletal disease, which dominate medical practice.

Environmental factors are part of the aetiology of disease, and statistics relating to physical, chemical, biological and social factors in the environment should be taken into account by health planners. Failure to do so may result in failure to achieve a planned goal. Bispham suggests that data should be collected on

pollution levels and climate

population density and overall migration

industrial and occupational structure

general transport system

general housing standards

facilities provided by other agencies such as local authority education, social service, housing departments and occupational health schemes.[7]

Resources

Davies, in a study of the relationship between local authority provision and need for services, has shown that, if anything, there is negative correlation between the two.[19]

But facilities and staff within areas should be related to the characteristics of each area. Information about all resources has to be collected at different administrative levels and those provided statutorily, voluntarily, or privately. Bispham identified six categories.

1 RESPONSIBILITY FOR SERVICES Details of the services which health agencies are empowered or permitted to provide, and the services actually provided (including delegated responsibilities), should be collected periodically.

2 ORGANISATIONAL STRUCTURE AND DECISION MAKING The organisational structure of departments at all levels administering services should be described. Decision making in the allocation of resources within each department should also be studied periodically.

3 ORGANISATION OF SERVICES Data should also be collected periodically and should include the number of facilities, their siting, catchment area, the kind of services provided, frequency and times of availability, for the following.

hospitals (inpatients, outpatients and laboratory services)

primary care

other community services (district nurses, midwives, health visitors, ambulances, loans of medical equipment, birth control, chiropodists, pharmacists, dentists and ophthalmic services).

4 PHYSICAL FACILITIES Each agency should provide periodically a description of the number, condition and size of all its buildings and of equipment they contain.

5 STAFF AND TRAINING Data should be collected continuously and should include details of the qualifications of employees, distribution and hours worked. It would also be useful to get information about the trained, or in training, people living in

each area who could be potential workers, the hours they would be prepared to work and the extra training or retraining necessary.

6 FINANCE Details of capital and sources of revenue (central, local and voluntary) of each agency and the costs of services will all need to be periodically available.

Need and Demand

NEED for health care is something for which a single definition is difficult to find. It depends on the existence of a degree of disease, malfunction or high risk of which the patient may or may not be aware. Need is often thought to be whatever the doctors regard desirable. However, another aspect of need is that recognised by the patient. This does not always coincide with professionally defined need. It may exceed it; for example, people may feel they need professional medical care for minor self-limiting conditions like the common cold, whereas the doctors may regard it as unnecessary. On the other hand, professionally defined need may not be so regarded by the patient. For example, minor symptoms of more serious disease may be ignored by the patient, or seen as too trivial for seeking medical care.

The attitude of the community as a whole may also be an important determinant of need for different kinds of services. For example, the community may resist the domiciliary care of people with mental subnormality or illness, where the patient, his family, and the doctor recognise the need.

DEMAND for health care is, then, related to need. It is also a function of the perceived value of use of services as well as factors which affect perception of symptoms and actual illness behaviour, such as sex, income, education, occupation, familial responsibilities, and personality. It is also related to the availability of services and the cost of receiving them. Demand can be considered in two categories, unmet demand and met demand (or utilisation).

UNMET DEMAND

Some of this could be measured by collecting data from such sources as waiting lists for services. Medical and social information could be collected from waiting patients and could be continuously updated.

The full extent of unmet demand would not be known from these sources because many people faced with long waiting lists may not even bother to try and get care. Appointment systems and the prospect of long waiting times may similarly deter people from consulting general practitioners and family planning clinics.

It is important that information on unmet demand is produced. The satisfaction of this demand is likely to be one of the most effective ways of improving health in certain ways.

MET DEMAND (UTILISATION)

All health agencies collect data on met demand, that is the use of the services they provide, for return to central administrative bodies and for day-to-day management and administration. Such data also are, or should be, used for planning, research and surveillance, although for these purposes the information is not always entirely satisfactory.

Most data on the use of services relate to patterns of previous demand and expenditure rather than to the characteristics of the people receiving services and of the population notionally served. In England and Wales, only hospitals collect basic descriptive information on inpatients—there is nothing comparable to this Hospital Activity Analysis (HAA) and Mental Health Enquiry (MHE) for general practitioners, local authority or hospital outpatient and accident and emergency services. Even the hospital data are only collected for admissions, deaths and discharges; information on long-stay patients, such as those in psychiatric, geriatric and chronic sick wards, is not routinely available. Most of the data collected by agencies other than hospitals are based on items of service, not on individuals. This results in the inflation of morbidity rates, reduction of fatality rates and the biasing of distributions of stay in hospital. An exception is the cancer registration bureau, where data are collected on individuals over time.

Basic data required for management, administration, research, planning and surveillance, are similar for all services, and should be collected for all patients receiving care and, as much as possible, for those referred for care who do not actually receive it. Again the blueprint for the actual data to be collected has been suggested by Bispham.[7]

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 referee (the person who refers the patient to the agency)

8 medical and social reasons for referral

9 date of referral

10 type of referral (urgent, routine, transfer)

11 new or old patient*

12 date of admission/attendance/visit/work carried out

13 agency to which referred

14 general practitioner

15 diagnosis †

16 treatment/investigation/operation/equipment

17 outcome (discharged/died/treatment continuing)

18 place to which discharged (home, hospital, or other institution)

*A new patient would be identified on the first occasion he is referred to one agency for a particular episode of illness.

† It is recognised that diagnosis 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.

Thus, the data required as a basis for rational decision making and evaluation in planning are many and varied. Ideally, planners would like to have a single index of health status which would express in a single figure the combined effect of a number of components measured independently; for example, morbidity, mortality and restriction of activity. The most likely unit for which a health status index of this sort could be measured is the duration of functional disability. However, other factors, such as severity, economic cost to society, use of health service resources, have to be accounted for by weighting. Two examples of attempts to develop this type of indicator are those described by Fanshel and Bush[22], and in the American document *Toward a Social Report*.[81]

Two World Health Organization reports have expressed the need for multiple but reliable indicators of factors from all the three areas of information discussed; population, resources, need and demand.[69 91] These could then be organised or arranged into different patterns, or aggregated in different ways, according to the planning problem to be solved.

Culyer, Lavers and Williams[15], and Shonfield and Shaw[77], give examples of how composite indicators have been developed to show both the state of health and also effectiveness of care. Both these relate to an output of health services—to be distinguished from input indicators, such as those relating to resources, policy and environment.

If these different kinds of indicators are to be developed for use in conjunction with one another as an aid to making planning decisions, a great effort in data collection is involved. Many of the variables discussed here are not collected routinely and require the use of well established social and epidemiological survey techniques. Both household interview surveys and health examination surveys are fundamental components of a comprehensive health information system. The WHO report sums up their usefulness.

> *'They enable estimates to be made of need, demand and reported utilization in relation to physiological, anthropometric and psychological parameters for representative samples of the population. In addition, data can be obtained on important related conditions, such as inactivity, disability and pain, as well as their duration, severity and urgency and on social factors . . . such as occupation, education and income.'*[91]

Information systems, then, not only require data collected in different ways, but also that all the data should satisfy certain requirements if they are to be used effectively.

1 The system should be based on population, not institutions.

2 It should be problem oriented, so that it can assess the significance of developments in the health service.

3 It should employ functional and operational terms; information on episodes of illness and treatment regimens is more useful than information about the isolated activities which make them up.

4 Only those data which have a definite purpose, for planning or otherwise, should be collected, and should be expressed briefly and clearly.

Having described the requirements of an information system, we now look at an analysis of the planning process, and the different kinds and stages of decision making. Information is required for all stages, though different kinds of information may be needed for each decision.

THE PLANNING PROCESS

Various writers, in acknowledging that planning is not an act but a process, have attempted to identify its component stages.[8 89 90 91] Before discussion these it must be stressed that planning does not have to follow the exact order of any theoretical model, nor do all the stages always have to be included. Decisions made early in the planning process must be taken into account when making later decisions, and early decisions often have to be reviewed in the light of later decisions or developments. It is a dynamic process which we may describe in seven stages.

1 Pre-planning

First, we have to know what is happening at present. What is the state of people's health? What is inadequate in the health care system? Another important part of the pre-planning stage is a forecast of how the system might be expected to develop in the absence of planning intervention. The WHO report *Planning and Programming for Nursing Services* describes pre-planning as

> *'the assessment or establishment of certain preconditions . . . of which the most important are government interest, legislation, a planning organization, and administrative capacity.'*[90]

To these should be added the development of information systems and the means to evaluate the results of the plan.

2 The Ideal

Theoretically, the ideal can be stated deductively but in practice the reality is based on a consideration of the present as well as a general political and social desire for improvement.

3 Setting Objectives

At this stage planners aim to provide the solution which most nearly achieves the ideal. It is the stage which poses the greatest problems of decision, and requires specific knowledge of the ways in which the present can be improved; for example, epidemiological evidence of ways of preventing deaths from particular diseases, or social survey data on how families care for the sick at home.

In a large planning operation where many objectives are involved, priorities have to be assigned. It is also important that the objectives are accepted by all those involved, in the planning process and in the provision and use of the proposed services.

Where applicable or possible, alternative methods of achieving objectives should be put forward so that planners can choose which one will most easily achieve the proposed target.

4 The Plan—Setting the Targets

Unlike objectives, which may not be reached during the planning period, targets have defined time limits within which their implementation should be complete. These fall within the planning period. The targets are often the part of the planning process called 'the plan' because it is the most definite and

practical part of the process so far. It relates to actual periods and actual changes in services, both policies and buildings, and represents the planners' choice from several alternatives of the best way to approach the ideal. It may often be the part of the process which is presented to the public.

5 Resource Allocation
Allocation of resources is closely linked to the choice of target(s). The planners have to decide how the resources allocated to health can be used to give the best choice between available alternatives so that the objectives can be most closely approached. Detailed knowledge is needed on what resources there are. Also, techniques such as cost-benefit analysis may be used at this stage, although they are not so useful as in economic planning. Very often the outcome (benefit) of health care provision cannot be measured in the same units as the input (cost). To make the target a practical proposition, the required staff, money and buildings have to be ready in the correct quantities and at the correct time during the target period.

6 Programme
Further information is used to develop the decisions about resource allocation into a specific building programme and operational policies to ensure that the targets are reached. It is important that the operational policies, designed to use the money, staff, facilities and equipment to meet the target, are flexible. Changes in the system may not affect the ideal behind the plan, but they may reduce the possibility of reaching the target. A reformulation of an operational policy, perhaps to encompass an increased resource allocation, may be the only way to ensure that the target is reached without changing objectives.

7 Evaluation and Re-assessment
The final and very important stage calls for ongoing research of the services and the people involved in the changes due to the plan. Its purpose is to measure the degree to which objectives and targets are fulfilled, and also the quality of the results. Evaluation can also lead to re-assessment of the previous decisions and, thence, to modifications based on the new information. As well as being the final stage, it can be seen as the beginning of a new planning cycle which does not have to begin again with a new ideal but can include new objectives only, or new targets or the programme.

So far we have discussed planning theoretically. Let us now see how it might develop in practice by adopting the suggestion of Bispham, Holland and Stringer; that is, to look at a single disease—chronic bronchitis.[8] The problems of decision making can be made even more specific by considering the preventive and treatment aspects of the disease separately. The latter are discussed here, showing how information particularly from epidemiology can be used in the decision-making process.

PRE-PLANNING Chronic bronchitis is an important cause of mortality and morbidity in England and Wales. It is a condition which becomes irreversible if not treated in its early stages and often disables people before retirement age.

IDEAL Keep all chronic bronchitics in their usual occupation until normal retiring age.

OBJECTIVE Keep all chronic bronchitics in some kind of work until normal retiring age. It is not possible for all chronic bronchitics to continue in their normal occupations. They are much less able to do physically hard work so those previously engaged in this will have to change.

TARGET Introduce a specified treatment to men suffering from chronic bronchitis, aged 40—64, by 1990. This is a high risk group in terms of loss of working life. The target is to identify these men and give them treatment. This involves a drug therapy which halves the number of days' work lost[23]; information on, and provision of, retraining facilities for those with unsuitable jobs; advice on avoiding polluted atmosphere, extremes of heat, exposure to crowds and infections; desirability of a heated bedroom; encouragement to stop smoking and reduce weight.

RESOURCE ALLOCATION Deploy resources to give the best choice between various possible methods of delivery of treatment; at home, in hospital or a combination of the two.

Health and other community services will be involved in achieving the target. The major problem is how best to coordinate them to ensure continuity for those needing a combination of home and hospital care. The length and frequency of stays in hospital need to be considered as they will partly dictate the provision of staff, beds, and facilities such as heating and air-conditioning. Home care may also require extra facilities and structural alterations to the house. In addition to hospital, general practitioners' surgeries and health centres will be used. Retraining centres and sheltered workshops may be additional building requirements. Many different people are involved in non-hospital care; general practitioners, community nurses, disablement resettlement officers, occupational therapists and others. This complexity is reflected at the next stage.

PROGRAMME This comprises building programme, drug therapy programme, and operational policies to implement optimum allocation of resources and to ensure that these meet the targets. Building programmes are needed to provide hospitals, health centres, retraining centres. And a programme should be designed to find the bronchitics and establish them on the drug-taking régimes. Then, operational policies are required for coordinating services and making sure facilities are available when needed.

EVALUATION AND RE-ASSESSMENT Ongoing research is needed to test the value of treatment programmes and ways of conducting them.

This should not only be concerned with the effectiveness of drugs and other aspects of the treatment but should also involve controlled trials of, for example, the effectiveness (social, psychological, economic, as well as medical) of hospital versus home treatment at different stages of the disease, and the success of different kinds of working environments.

CONCLUSION

Different writers have identified ways of classifying styles of planning.[48 69 88 91] They distinguish between two approaches to planning.

1 to make the best of the present situation and at the most to plan resources to cope with the needs that trends indicate will arise

2 to plan for a desired future which is based on a broad consensus of objectives and goals.

The first approach will 'affect the future haphazardly', while the second will 'mould the future in a purposive way'.[48]

While the process we have outlined is applicable to all planning styles, it is most appropriately used for the latter of the two described above—the *normative* approach—where clear objectives are established and the means by which their attainment can be pursued are then provided.

The model can be used in all types of societies; it is the desired future (goals and objectives) that differs, not the process. The effect of economic, political and social structure on planning is on the definition of a desired future. Less-developed societies may need to plan a decentralised system of services in order to spread basic provision quickly over a large unserved area. Whereas, in developed countries, a proliferation of services has grown up and the problem may well be how to administer these more centrally so as to coordinate the disparate resources to provide similar services in all areas. In addition to the basic difference, there is the variation in political standpoint epitomised by the contrast between USSR and USA. This is likely to create an emphasis on achieving broad health goals and preventive measures for all in nations whose health service is publicly controlled, compared with an emphasis on achieving the best possible curative care for some, in countries with a privately controlled health service.

Although the planning process outlined in this paper can be used in many different situations, certain requirements need to be incorporated for the process to be effective. First, it must be flexible.

> '*It must preserve the sensitivity and adaptability to detect and respond to new needs, new problems and new opportunities (which also means dropping practices and aims once they are superseded).*'[8]

It must also be able to encompass the many decisions that affect health and health care in the widest sense. Second, it must be a *continuous* process, so that any new objectives required can be incorporated and the results of evaluation can be acted upon.

The need for planning always exists: a ten year plan is not enough—at the end of this time there will be another 'desired future'.

As has been shown, it is virtually impossible for all decisions in planning always to be taken entirely on a rational basis. An efficient information system is a prerequisite of rational decision. The ideal system provides data for all stages from pre-planning to evaluation and follow-up. It also provides continuous monitoring and surveillance of the health care system so that new needs and deficiencies are brought to light as soon as they occur.

As information systems are so important, the coordination of statisticians and researchers with professional planners is crucial. Coordination should also be maintained with policy makers and administrators. As health planning forms only part of wider economic and social planning, coordination is necessary on these fronts.

Planning for health services needs to be carried out at two or more levels. In the NHS, planning at area level concerns the provision of services and allocation of resources for common conditions. Coordination of these plans at regional level may be required as well as the provision of health services for rarer health problems. Planning at national level concerns the overall administration of the system, general policy making and broad resource allocation. Not only will different groups of people be involved in planning at different levels, but different kinds of information will be required. In an area or district, detailed local data are needed on three kinds of information; population, resources, and need/demand. Similar kinds of information are required nationally, relating to the whole population, and concerned with more general indices on which national policy decision can be based. Coordination between the different planning levels, of course, needs to be extensive, to ensure the smooth running of the whole administrative structure, to communicate decisions to all concerned, to use the collected information efficiently and avoid duplicate collection.

For planning to fulfil its function and help create better health care, all the right people need to be involved in decision making and to have an interest in its success. Three groups of people must be involved; firstly, the professional planners, including all the professional and scientific staff who help provide information; secondly, the providers of services, medical and paramedical staff and administrative staff; thirdly, the public, or consumers of the services. The active participation of all three groups in the planning process is imperative for the efficient organisation and utilisation of medical care services.

2 THE EPIDEMIOLOGIST'S CONTRIBUTION

Charles du V Florey and Jean M Weddell

Before considering his contribution to the planning of health services, one must first ask what an epidemiologist is and what particular skills he has to offer. In the past, an epidemiologist studied epidemics which were more or less evident to the layman because the diseases were acute, infectious, and the majority of cases occurred over a short period. The epidemiologist gathered information about the location of cases and the characteristics which distinguished those who contracted the disease. This helped him choose appropriate action to stop the spread of the disease..

After World War II, because of the declining importance of infectious disease, epidemiology became increasingly involved with long term epidemics of chronic diseases, such as coronary heart disease and diabetes mellitus. Epidemiologists began to study *any* disease in population groups rather than specific individuals. As this new area was developed the epidemiologist began to borrow more from the statisticians' methods to analyse the sort of data which rarely gave the simple 'yes or no' answers sought in infectious disease studies.

The epidemiologist thus became expert at bringing medical and statistical knowledge together. It was but a short step to the realisation that almost any health problem involving the counting and categorisation of populations could be considered as his province. Thus, need, demand and delivery of health care were clear candidates for study in the second expansion of the subject, during the mid-1960s. The expectation was that a more thorough understanding of the process of provision of care would enable providers and planners to improve the quality of the services.

What has the epidemiologist to offer? First, he can identify medical problems in the population for which some type of health service is being planned. Initially, this work can be done in an armchair where data describing the local situation can be abstracted from appropriate publications and collated.

These kinds of data include measures of both mortality and morbidity. Mortality data are published by the Registrar General weekly, quarterly and annually.[35 39] The annual data are given in great detail both by disease and by demographic and geographic parameters. The epidemiologist's medical knowledge should allow him to interpret the statistics for each condition. For example, he knows that in a rapidly lethal disease such as melanoma, a cancer of the skin for which current treatment is of negligible effect, the death rates approximate incidence rates. On the other hand, death rates for diabetes, a disease which nowadays is irregularly certified as the primary cause of death, are unlikely to reflect what is going on in the living population because most diabetics die of the complications of the disease. It is these complications which are recorded as the causes of death, not diabetes itself.

Special mortality analyses are given in decennial supplements[38], the last one of which was published in 1971, which review important diseases and their associations in ways which cannot be abstracted from the annual publications.

The epidemiologist may also be able to use his medical background to assess the relevance to planning of morbidity statistics such as those provided by the Hospital In-Patient Enquiry (HIPE)[25] and Hospital Activity Analysis (HAA)*. HIPE is principally of use at a national level because the statistics for deaths and discharges are gathered from a ten per cent sample from England and Wales. HAA collates details of all hospital deaths and discharges by health district. For their interpretation, an understanding is needed of the way in which the natural history of each condition may affect the statistics and of other limitations imposed by the methods used for their collection.

Other types of data for estimating the health and social scene are also readily available; for sickness absence, for prescription of drugs and from special surveys such as the General Household Survey reported by the Office of Population Censuses and Surveys.[36]

Despite the wealth of published data, many health care problems cannot be answered without special studies. It is in this sphere that the epidemiologist's contribution can be particularly useful. He must assist first in defining both the problem and the answer which will be needed by planners to reconsider the *status quo* and, secondly, in designing the study so that it has a good chance of achieving its objectives.

A variety of methods has been evolved for the study of populations. Some examples are given below. The three main types of approach are retrospective, prevalence and prospective. In *retrospective* studies two groups are defined, one with and one without a certain characteristic. The frequency of an event which has taken place in each group is compared to establish whether the event is related to the defining characteristic. For example, two groups of stroke patients might be selected, one treated at home and the other in hospital, and the reasons for the decision to treat in one or other place investigated. This method has advantages of speed and economy but frequently suffers from poor or missing historical data and biased selection of patients. For these reasons the method has been used infrequently in health services research.

In a *prevalence* study a random sample of a population is measured by questionnaire or physically at one point in time. Estimates are made of the proportion of people in the total population who have certain characteristics. This method may be used to find out the medical care needs of a population so that services may be planned to meet them. Although the

*Available from the Department of Health and Social Security.

collection of data for such studies may be relatively quick, the time spent on preparation and analysis may be considerable.

Prospective studies are concerned with following a defined population over a period, usually of years, to find out whether initial observations of ill health are related to subsequent outcome. Studies of the use of medical services by the elderly, or measurements of the frequency of consultations in a new medical service, may be of this kind. These studies take much longer than prevalence studies and cost a great deal more but they give direct answers about risk, or likely use of medical services, which can only be inferred from other types of study.

There is also the controlled trial, an experiment in which patients with a given condition are randomly allocated to treated and untreated (control) groups. The progress of the patients is followed for a predetermined time and the difference in outcome between the groups compared. This has some of the characteristics of the prospective study but the research worker intervenes in one group with a clearly defined therapy.

EPIDEMIOLOGICAL STUDIES RELEVANT TO PLANNING CARRIED OUT BY ST THOMAS' HEALTH SERVICES RESEARCH UNIT

Some examples of research aimed at providing information on which to base policy decisions may be helpful. In the early 1960s when St Thomas' Hospital acquired district responsibilities, the question was whether the services would meet the needs of the population. Respiratory disease, functional impairment, skin diseases and duodenal ulceration were selected as conditions which might give a general idea of need in the area served by the hospital. The prevalence of these conditions was estimated from data gathered from a large sample of the population in one administrative section of the area. Analysis indicated that the services already provided were adequate with the possible exception of those for functional disability.[6 45]

In a prospective study of the medical care of patients with cerebrovascular accidents (strokes) was investigated.[84] The general practitioner has two problems; the admission of patients to hospital and their care when they return home. The consultant is reluctant to admit a patient for whom there is little effective treatment and who may occupy a bed for months. The geriatrician is frustrated by lack of facilities for the disabled survivors. The planner has to assess the relative importance of these demands and decide what changes will improve the care of this group of patients within the limits of his budget. In this instance, the epidemiologist was able to describe the care given to all those who developed a stroke during a year in a defined population of 270 000 served by a district general hospital. The study described the characteristics of the stroke population, the survival pattern, and the place and duration of care. The findings showed two main problems. The first was the sort of care patients received in the acute phase of illness when they were severely ill and mortality was high. The second problem was what care to give the disabled survivors. The study showed that this small surviving population could be identified within three weeks of the stroke, by which time most were at home. It should be practicable to concentrate supporting and rehabilitative services on their care. At present these services are poorly coordinated and often inappropriate, leading to duplication of effort and unmet need.

The pattern of referrals of elderly patients has been investigated in a prospective study carried out in several adjacent areas south-west of London.* The aims were first to describe the referral patterns in each area and then to find which factors were related to big and small use of agencies. This information would indicate what measures might be necessary to modify services. Referral rates differed by as much as 100 per cent between areas for all agencies combined (health, social and housing) and for each individual agency. This variability in rates could not be attributed to demographic differences between areas, so the characteristics of those referring the patients were investigated. It was found that referral rates were dependent on the number of general practitioners per 1000 population over 65 years of age, the involvement of GPs in hospital work, and the proportion of district nurse attachments to general practice. The results should be particularly relevant to health care planning teams when they attempt to predict changes of demand arising from their decisions.

Study of the prevention of disease is also relevant to planning. The question is: if we seek out disease in the population before symptoms drive the patient to the doctor, can our preventive efforts result in a healthier population and ultimately a decreased use of services? The question may be restated: if we undertake multiphasic screening in the adult population does it reduce mortality or morbidity? This has been examined in a five-year randomised controlled trial in two general practices in London.[80] The practice populations were divided so that half was screened for a variety of abnormalities while the other half was left alone. Screening was given on two occasions, separated by two years, and then in the fifth year both screened and control groups were examined. During the five years, data were collected about all consultations with the general practitioners. Preliminary results suggest that in this short time mortality has not been reduced in the screened groups, but a substantially increased number of consultations were made by those in the screened group compared with controls. These findings imply that multiphasic screening causes increased demand for already strained services while providing little benefit for the population as a whole. If the results are confirmed by further analysis they have wide implications. Public pressure to introduce a programme of general screening in the NHS should be countered by the scientific evidence that such screening is of limited health value and very costly.

In another randomised controlled trial the clinical outcome of routine inpatient surgery for the treatment of varicose veins was compared with outpatient injection-compression sclerotherapy.[12] This showed that during the first three years both treatments produced very similar results. Neither treatment was entirely effective; three years after treatment 14 per cent of patients treated surgically and 22 per cent treated by injection-compression sclerotherapy had had further treatment. Although the clinical outcome was similar, the cost of the two treatments differed dramatically. The surgical costs were four to five times greater to the health service, to the patient in time needed for the treatment, and to the community in loss of earnings.[67] However, the results five years after treatment showed that about a third of those treated did better after surgery and that this third could be identified as those aged over 45 and those with signs of more severe venous disease.*

CONCLUSION

This type of research creates problems for planners. They cannot wait indefinitely for their answers; decisions have to be made and action taken. Ideally plans should be flexible enough to allow modification when an answer is improved and given in more detail, but this ideal may be difficult to attain in

* *The Use of Services for the Elderly in the Catchment Area of a District General Hospital*, mimeograph by S Thorne of a paper given at the 7th International Scientific Meeting of the International Epidemiological Association, Brighton, 1974. Available from the department of community medicine, St Thomas' Hospital, London.

* *Outcome of Surgery and Inspection/Compression Sclerotherapy for Varicose Veins at Five Years*, paper by A D B Chant, H O Jones and J M Weddell, to be published.

practice. The acceptability of the epidemiologist's findings to the clinician may have a considerable bearing on their implementation. If these are regarded with distrust they are unlikely to be used, unless the consequences of ignoring them are sufficiently powerful to persuade the clinician to put them into practice.

Plans have to be agreed by all concerned before they can be put into practice. Health services are highly complex organisations and agreement is not easily reached. Implementation of research findings can be helped by a common understanding of the problem. Those actively engaged in the delivery and administration of health care should put the problem to the research team; all interested parties should be involved in the design of the study set up to examine it. The epidemiologist carrying out applied research of this nature would be shortsighted if he attempted to work without the full cooperation and involvement of those in the service. The fieldwork should be done by the research workers if accuracy, completeness, reproducibility and speed are to be achieved. It is unrealistic to expect people already fully occupied with their own job to take on the additional work required to produce sound data on which to base decisions. A poor experiment is worse than none at all and, though difficult to reject out of hand, no one is happy to implement the findings.

The research team must define the objectives of the study at the outset so that all concerned understand why the work is being done. Those in the service have to agree on the definition of the problem and decide what evidence they need before they will accept a change in present practice. Repercussions in other parts of the service should be anticipated. How much difference, for example, would a ten per cent reduction in the length of hospital stay make when translated into numbers of patients admitted to that hospital with a certain condition during a year? What effect would this have on other waiting lists, on case mix in the ward, and on workload in outpatient clinics, theatres, laboratories and community services?

If the study leads to changes, the effects of the changes should be evaluated to measure whether the present is better than the past, in what respect it is better, and what future improvements might be made.

3 ECONOMICS AND HEALTH SERVICE PLANNING

Andrew Creese

This paper outlines what makes economics potentially useful in health service planning, and to describe some of its applications. The emphasis in the latter is on the practical contribution to health service planning of such techniques as cost-benefit analysis and planning-programming-budgeting systems, rather than on their theoretical background and shortcomings. Such issues are treated more extensively elsewhere.[47 55]

Since the first steps into health economics were taken by Sir William Petty (1623-87) in demonstrating that deaths from plague were an avoidable economic loss[66], the reader might assume that the subject is well established. The fact is that there has been no continuous dialogue on economics and health since the seventeenth century: as a theory, health economics is in its infancy. It consists, for the most part, of a rapidly growing series of attempts to apply economic appraisal to the various institutions, professions, and practices of health services. Essentially an applied subject, it is based largely on a body of theory known as 'new welfare economics'. This is not specifically concerned with health, but with the theoretical preconditions of socially optimal allocations of resources. A more detailed evolutionary tree of welfare economics and a sketch of its subject matter are given by Williams.[87] The more ambitious attempts of early work in calculating the value of health to the economy, such as those of Petty, Edwin Chadwick and William Farr, outlined in a recent survey of the economic literature on health care[73], have tended to give way to more specific questions of whether practice X achieves more, for the same amount of money, than practice Y. In the economist's terminology the focus of research has moved from macro to microeconomic, and the question which the methods of contemporary health economics are best able to tackle is, How can we use the available money more efficiently? rather than, How much more money should the health service have?

Health is in many ways a planner's nightmare. It has some of the characteristics of an economic commodity: it is valued, there is less of it than we should like, its supply is affected by the health services, and its deterioration would at some point begin to reduce our standard of living. But it is also difficult to quantify: it is only indirectly related to the health service inputs, and is fraught with ethical considerations. So services are planned as a proxy for health itself, even though their impact varies greatly among different patients and across different conditions, and the development of a more accurate measure of health remains a minor, fragmented research concern.

It should be recognised that we shall be discussing health as though it were directly produced by the health services in the same way that transport is produced by the transport services. Of course, this is not so. It is improvements in health that patients seek, and the health services are simply one means to this. There is presumably little demand for health services themselves, except perhaps from hypochondriacs and other 'addicts'. But the whole concept of patients as *demanding*, that is, being only on the purchasing or consuming side of the equation is increasingly being questioned by economists, as in the work of Michael Grossman[43] and Jack Dowie.* Applying some of the 'human capital' ideas of recent economic theory to health, they suggest that individuals and families are both producers and consumers of health, since factors such as length of education, type and place of work, dietary habits, and use of leisure time are, to varying degrees, associated with good health. In fact, the assumption that health is preferred above other things is demonstrably untrue when 'trade offs' between satisfactions like driving fast, smoking, dangerous sports or eating rich food, are considered, since these are all health threatening activities. The planning implications of these are far reaching and we are only just beginning to confront them. But if we wish to promote health we need to know how it ranks in importance among other consumer satisfactions. We also need to examine to what extent the health services are the best means of raising life expectancy and reducing morbidity, since housing, education, environment and social services are also correlated with good health.

HOW IS ECONOMICS USEFUL IN HEALTH SERVICE PLANNING?

This can be divided into two questions.

How is economics useful in planning?

Is it applicable to the health services?

Most introductory economics texts open with the fundamental concern of the subject—a concept that is an integral part of planning—that of choice. The introductory section of one of the world's most widely read textbooks says

> *'Economics is the study of how men and society choose with or without the use of money, to employ scarce productive resources to produce various commodities over time and distribute them for consumption, now and in the future, among various people and groups in society.'*[75]

Planning and choice have a lot in common. The need for both arises from scarcity of resources, and planning might be seen as nothing other than the making of systematic, future-oriented choices. Planning is done because people prefer to influence the future by thinking ahead to the consequences of current decisions. The reasons for our future concern are complex and not strictly relevant in this context. We accept that planning takes place to shape and improve the future, and can reasonably interpret it as a series of choices. Planners

* *A Portfolio Approach to Health Behaviour*, mimeograph by J Dowie, 1973, available from the department of community medicine, St Thomas' Hospital, London.

first choose *by how much* they want the future to differ from the present. Secondly, they choose the time of the plan; it might be anything from a few months to 20 years or more. Given the size of the planned improvement, the period determines the *rate* at which the desired improvement will take place, as in the DHSS hospital revenue allocation formula for equalising revenue to regions according to an approximate index of relative need over a ten-year period. [86] Alternatively, the rate can be determined and the time period left indefinite. Economists have considerable experience with systematic choice making in a planning context—in developing criteria for choice, in the appraisal of individual projects, and in the calculation of feasible and preferred ways of moving the economy from A to B. So much so that economists tend to think of planning as economic planning, which is frequently at the highly aggregated level of the whole economy. It is done through the use of abstract models, which are simplified (though complex) representations of what are believed to be the key relationships in the economy. This has not proved useful in determining the overall share or contribution of the health services, primarily because of the difficulty of quantifying the relationship between health and economic activity with any precision. As a result, it is not possible—even if it were judged desirable—to calculate what would be an 'optimal' health budget from the point of view of a national productivity.

A particularly important basic concept in planning, and one to which a passing reference has already been made, is that of *opportunity cost*. It entails, figuratively, looking over one's shoulder each time a choice is made, since it is a measure of the value of resources in their nearest alternative use. In a health service context the opportunity cost to a district of improved care for accident and emergency patients might be the sacrifice of district nursing facilities for the elderly. The systematic evaluation of alternatives is an essential part of economic planning; indeed, it is part of the process of informed choice. Culyer has elaborated on this important point in Chapter 2 of his book, *The Economics of Social Policy*.[17]

Unfortunately, the assessment of opportunity cost is not often a straightforward matter. For a large number of reasons there may be a divergence between the opportunity cost to an individual producer or consumer, and the opportunity cost to society as a whole. Some of these are outlined below. It is simply worth noting here that where the two diverge, the social opportunity cost is the appropriate accounting criterion on which to plan public policy.

The value of economics in health service planning lies in its distinctive approach to choice, and the issue of choice in economics brings in a range of new information, most specifically through the notion of social opportunity cost. The techniques of applied economics in health are firmly based on this. In other words, economics adds an important dimension to planning, through the information which it systematically provides on the implications of planning options on resources. In addition, since efficiency in the use of resources can generally only be assessed in relation to an overall planning ideal, economists will persistently ask for precise definitions of the aims and the priorities of planners and policy makers. Eliciting these, either explicitly, or simply by observing what decisions are actually made on balancing costs against quality of care, severity of illness against length of stay, and so on, is possibly one of the most significant contributions to planning that economists can make. An example of how hospital priorities might be deduced from decisions made about the allocation of beds is given by Lavers.[54] It is unfortunate from the economist's viewpoint that objectives are often only revealed through what policy makers actually do. The economist cannot make the decisions, nor eliminate the element of judgment from planning decisions. He can only widen the planners' information base, to take some account of the value-for-money implications of decisions. At its most basic level, the value of his contribution rests upon the acceptance that information is preferable to ignorance in decision making and, particularly, that economic information is important.

Is economics applicable to the health services? Particularly, to what extent does health fill the role of an economic commodity? There is little doubt that it is different from apples, the standard expository device of microeconomics, but there is a spectrum of opinion as to *how* different it is. The question is not simply an academic indulgence, since the way health is regarded as a commodity is directly related to the appropriate type of market for it—in other words to the institutional form of the health service. It therefore impinges directly on the form of planning that will be possible, and on the economist's contribution. Very roughly the two ends and the midpoint of the spectrum might be characterised as follows.

Health is Comparable to Other Services

If, at one end of the spectrum, we visualise health purely as a product for consumption like entertainment or hairdressing, the competitive market is the acceptable economic mechanism for determining what should be offered for purchase, at what price, and to whom. Lees has made the most sustained argument along these lines.[56] The price, of course, will be based on people's willingness and ability to pay. There would be no reason for the government to participate in this health service at all. And the main function that economists could perform would be to identify and suggest measures to eliminate 'imperfections' in the market mechanism. Examples of these would be all types of monopolistic practice, such as a standardised training and legalised licensing system for doctors, hospitals, and so on. The advertisement of services and individual doctors would become normal, and some type of organisation would have to be set up to promote the dissemination of medical knowledge among consumers (patients), so that this was not monopolised on the supplier's side of the market. Since the informed decisions of large numbers of competing buyers and sellers would determine who gets what, and at what price, any planning agency would be unlikely to have more than regulatory power. Indeed, the industry might be policed only by such bodies as the Monopolies Commission and the legislation governing restrictive practices. It is unlikely that such a totally market dominated health service characterises the bulk of the health care system of any country. Sections of the health care business in most countries have at least some of these tendencies—for example, the private sector, and the fringe professions such as osteopathy and acupuncture in this country. But generally economists acknowledge that health has some peculiar 'public good' and ethical characteristics, along with a number of other services like defence and education. Thus to some degree health services have to be provided communally, and the ethical characteristic is that people have a basic right to health regardless of their ability to pay. They also accept that like the unmarketed byproducts of industry—noise, pollution, ugliness—there are 'external'

effects of individual production or consumption decisions in health. A simple example is the gain to third parties of an individual's decision to be vaccinated against, say, measles, since this reduces the risk to all those non-vaccinated people with whom he comes into contact, as well as giving him immunity. This is therefore an external benefit in the consumption of measles vaccinations. A fuller treatment of these important welfare economics issues in health is given by Culyer.[16] The existence of such factors implies that social and private opportunity costs and benefits may well differ even if the market operates perfectly (for example, no monopoly on either side). In the health context, these peculiarities are usually taken to mean that the level of production of health services would be lower, if left to individual decisions, than is socially optimal, and that the most needy would get less than their due.

Health is an Unusual but Marketable Product

In the middle of the spectrum are those who accept that this concept means that the government has to intervene in the health market, to subsidise the total output to a level that is considered optimal. Perhaps the most comprehensive elucidation of the reasons for intervention is given by Arrow.[5] A health system along exactly these lines is, of course, the American one, in which approximately one-third of the total budget is provided by the federal government, mainly for programmes for the aged and needy. The remaining two-thirds are provided by patients and insurance schemes, the greater part in the form of use-related payments. The planning contribution of economists in such a system is extensive, from the federal, state and local expenditure viewpoints, in which considerations of the value for money being obtained from public expenditure predominate, in the form of cost-effectiveness studies, such as Acton's examination of alternative methods of providing an urban programme to care for heart attack victims[2], and in the implementation of programmed budgeting by the Department of Health, Education and Welfare. In the private sector, too, a considerable amount of economic work has been done on insurance systems and the value of new methods of care.[85] The Kaiser-Permanente work on the costs and benefits of multiphasic screening is a good example of this.[18]

The Production and Allocation of Health Must Be Done Primarily Through the Government

At the end of this spectrum is the judgment that the British National Health Service encapsulates. The difference in interpretation from the middle position is simply one of degree. The anomalous characteristics of health are accepted—market imperfections, external effects, ignorance and uncertainty, the ethical argument of relating health to a need rather than the market based *demand* concept with which economists are familiar—and it is concluded that health is quite distinct. In this situation the economist's role is rather different. In replacing the market, the founders of the NHS clearly had some alternative allocation in mind—that of need rather than ability to pay. Payment was made in rough proportion to the earnings of the employed, since most of the NHS budget comes from direct taxation.* But abolishing use-related payment has meant a substantial excess of demand over supply, or even of medically defined need over supply. This is indicated in hospital waiting lists. In order for economists to assess whether the system is functioning well or badly, a more precise statement of the objectives of the NHS is called for than simply that of providing care according to need. For when demand exceeds supply, rationing becomes inevitable, and there are many informal and formal rationing mechanisms in the NHS—from general practitioners' receptionists to hospital waiting lists. In such a situation, economists need to know in greater detail what the NHS is attempting to do—in their terminology, they need some definition of the social welfare objective of the health service. In practice this means that planners, administrators and policy makers need to specify not only which are their priorities (as, for example, the elderly and the mentally ill are in some sense known to be) but by how much these groups are to be given priority, and over whom. What this means is that in NHS planning economists have the additional, and extremely difficult, task of getting a working definition of the system's objectives from its decision makers and planners. For they can only assess how well a system is doing when it is clear, in much more precise terms than are contained in the NHS Act, *what* it is intended to do. It is not at all clear, from a glance at what the NHS actually does, what it is intended to do, since there are big variations in the resources for treating different types of patient from one region to another, and one type of patient to another, which are not related to observed differences in morbidity or mortality. It would be uncharitable to assume that this is an objective; indeed, policy is increasingly geared to reducing these variations.

In summary, health is treated by the NHS as though it were distinct from conventionally marketed services. This means that the major planning contribution of economists in cooperation with a variety of other disciplines, is the assessment of the efficiency with which the NHS is meeting its objectives. But as we have seen, the objectives themselves are not clear. One of the basic tasks of economists, at all levels of planning, is thus the teasing out of objectives. We discuss below how the clarification of the value judgments on which the NHS operates is involved in such methods as cost-benefit and cost-effectiveness.

WHAT DOES ECONOMICS OFFER?

The emphasis of economic work on the health service, as we have seen, has shifted from macroeconomics (in which health expenditure is incorporated into a more general model of the economic system) to microeconomics (where the focus is the efficiency of alternatives in care, treatment or prevention). The failure of macro exercises rests upon the peculiarities of health already outlined. But it is not a barren field. Valuable work might be done in estimating the correlates of good health*, so that we can begin to assess the relative contributions of the sort of variables outlined by Grossman.[43] It might well be that, in a developed country, the most cost-effective way to reduce morbidity would be to channel money into sectors that are not conventionally thought of as health—such as air pollution control[53], improved housing, health education, or actual cash transfers to needy groups. The interdependence of economic activity and good health remains to be investigated in any detail, as does the 'trade off' between good health and, for example, high income or status, since it is clear that individuals frequently choose activities which are directly threatening to their health.

But the fact is that most economic work on health and the health services is of a micro character; and it is on this that an assessment of the economist's planning contribution should be made. Microeconomic work attempts to tackle the more pragmatic issues, and acknowledges that the budget is a practical constraint. It provides information of immediate use in planning and in attempting to answer three questions.

* Over 80 per cent in 1973-74.

* See R Milne's paper, *The Health Production Function: Infant Mortality in the Maltese Islands*, available in mimeograph from the department of community medicine, St Thomas' Hospital, London.

What are we doing?

What could we do?

What should we do?

Functional budgeting, cost-effectiveness studies and cost-benefit analysis are systematic ways of tackling these questions. Though they can seldom provide complete answers, they can illuminate much of the obscurity in which health service planners find themselves. It is quite surprising, for example, that we simply do not know with any accuracy how to account for the health services' use of resources by types of patient. Fuller descriptions of these techniques are available in the literature: our purpose here is only to describe them as far as is necessary to illustrate their uses in planning.

WHAT ARE WE DOING?

Contribution of Functional Budgeting

We cannot usefully plan unless we know in some detail where we are presently succeeding and failing. From an economic viewpoint this means that we need to know how effectively resources of all kinds—people, buildings, drugs, equipment—are used. A prerequisite of this evaluative stage is simply to know what resources are used for what purpose. Since the broad objective of the health service is to improve the health of various types of patient, what is needed is to relate the resource inputs to the output (or outcome); that is, the change in the health of various types of patient. For a more detailed explanation of this the reader is referred to the King's Fund working party report, *Accounting For Health.*[49] The method of accounting in the health service makes it impossible to determine the costs of curing and caring for different types of patient, since costs are allocated by inputs, not outputs. We know with remarkable precision the cost of producing steam and light and maintaining grounds, but not what proportions of doctors', nurses', operating theatres' time, or the use of x-ray departments, are involved in the hospitalisation of a surgical patient. We have only costs per inpatient day averaged over very different categories of patient. But there has recently been a number of attempts to identify the use of hospital resources by groups of patients.*

Functional budgeting, whose parentage can be traced back to microeconomic theory[67], is specifically a means of relating inputs to outputs. It is the organisation of accounting by problem, target, or output other than by such traditional subheads as 'portering', 'x-ray', and so on, in a fashion unrelated to groups of patients. It is thus a departure from conventional accounting, the methods of which are more influenced by considerations of legality than efficiency. But we could have both. The first step is the considerable one of changing the accounting system. It does not have to be done at once: a functional budget may be developed alongside an existing system at relatively little cost, since it is largely a matter of organisation. This has been done in a number of government departments and is already being introduced into some hospitals. The initial task is to define the outcomes or functions to which the budget is put; and in an NHS district these might most usefully be such categories as the mentally ill, the handicapped, or maternity. Within a hospital, the appropriate functions might be smaller groups of patients. The next step is to allocate expenditure among the functions; that is, to determine what proportions of the resources of all the departments and agencies involved are allocated to each of these designated functions. This will in all likelihood involve some speculative assessment by those concerned; it might also involve some work study. The end product would be a budget related to patients. We should then know what our resources are actually doing. Planners would be in a position to assess policy changes—for example, a change in the number of babies born out of hospital—in terms of both cost and outcome. A planning-programming-budgeting system is the actual operation of such a budget in the planning and evaluation of expenditure. It involves the identification of targets for different groups of patients, such as a ten per cent reduction in traffic accidents. Alternative programmes to achieve this would then be prepared and examined, and the least costly recommended. It is thus an attempt to make considerations of cost-effectiveness a routine part of planning. In various different forms it is slowly being adopted by public authorities, locally and nationally. The DHSS has developed such a system for describing the greater part of its budget. The Grampian Area Health Authority has a functional budget and one is being developed in St Thomas' Health District.

* *Disease Costing in Hospital*, mimeograph by A Mason (1974) available for reading at the King's Fund College, 21 Palace Court, London W2 4HS.

WHAT COULD WE DO?

Role of Cost-effectiveness Studies

Once resources are related to patients it becomes possible to assess with some accuracy alternative methods of providing care. If we can either get more from a given budget, or achieve the same at less cost, we are improving efficiency. We need to be able to measure outcome to complete these comparisons, and this can be done in a variety of ways. Undoubtedly the most useful method would be a composite index of patients' physical and psychological health; but a satisfactory index has still to be devised. This is an important area in which scientists from a range of disciplines are able to contribute something of longer-term relevance to the planner.[77] Simpler measures of outcome, often using routinely collected information, such as complications, related re-admissions, deaths or a simpler index[74], might be adequate measures of outcome.

Cost-effectiveness (CE) studies are comparisons of the costs and outcomes of different ways of using resources. There might be a large number of alternatives, or simply two; but the possibility of a choice must always exist. The type of question on which CE can be used to clarify planning may be expressed as: given that we have to care for myocardial infarcts, which of the various possible methods is the best? Now this is obviously not a question that economists alone can answer: indeed no single specialty can make the decision, since in all likelihood it will involve the assessment of clinical, economic, sociological and psychological evidence. It is therefore a policy maker's or a planner's decision. The CE framework allows the information relevant to the decision to be presented as explicitly as possible, so that the factual and the subjective aspects of decision making can be separated.

The number of choices in health service planning on which the CE technique can be brought to bear is very great, if not infinite, and it is a relatively straightforward procedure. The types of choice usually involve options of the method, time, or place of treatment or care. Frequently combinations arise. Piachaud and Weddell compared the costs and outcome of two types of treatment for varicose veins—injection compression sclerotherapy and surgery.[68] They found no significant difference in outcome over three years, but the former method was four times cheaper.* Alternative types of treatment involve preventive measures, such as screening or immunisation. They invariably also involve different locations

* But see Chapter 2, page 20, for results after five years.

and methods. An example is work by Kodlin on screening for breast cancer.[51]

It should be pointed out that in CE studies, as with cost-benefit appraisal outlined below, the concept of cost used is that of social opportunity cost defined earlier. In practice, this would mean that in a comparison of different methods of treatment the costs to *all parties* should be considered. In addition to hospital resources, therefore, costs of general practitioners' time, domestic helps or district nurses, and costs of extra expenditure to the patient and his family, and of their lost earnings and savings, would also have to be included. Items which cannot readily be expressed in monetary terms, but which would nevertheless count as costs, such as anxiety and discomfort, should also be measured and reported. It might well be that the planner has priorities of his own which mean that information about, for example, the costs borne by the patient's household would be given particular weight. If they are not, of course, each pound used by the hospital will be worth the same as the pound used by the community health services or the patient. The important issue of policy weights in such studies has been further discussed by Walsh and Williams.[83]

The most straightforward type of CE study is that in which differences in outcome may be assumed not to occur. The comparison is then between the social costs of two methods. But where outcome cannot be assumed to be the same, for example, in many randomised controlled trials, a CE comparison can still be usefully made. The study by Adler and his colleagues is an example.[3] In this situation the less socially costly alternative is either better or worse in outcome. If better, and the planner's policy weights still show it is less costly, the planning decision would seem simple: implement it! But, if worse, the planner has the familiar problem of defining the trade off between quality and cost. He decides what amount of reduction in quality of care is offset by a reduction in cost; and this is a value judgment that no economist can make. It is the sort of decision which will be eagerly watched, however, since it involves the making of an explicit judgment, as a result of presenting the choice in a CE framework. A current example is the treatment of haemophilia, where the use of a freeze dried alternative to cryoprecipitate improved the quality of care by allowing patients to treat themselves, promptly and on the spot. However, the new material is currently much more expensive and its use has not been made a national policy. A CE study is now in progress to define the differences in quality and cost as precisely as possible.

WHAT SHOULD WE DO?

Cost-benefit Analysis

Like CE, cost-benefit analysis (CBA) is a method of making choices under conditions of scarcity. Its basic concept is simple, but the practice is inevitably more complicated. CBA attempts to tackle the basic issue of whether an activity is worthwhile or not, and in what order a number of worthwhile projects should be implemented. It addresses itself for these reasons to some of the planner's more fundamental choices. A modification of commercial investment appraisal, CBA is a method for assessing whether a particular policy or institution is worthwhile in *social* terms. The procedure is therefore to compare the sum of the social costs of a project with the sum of the social benefits. If the latter exceed the former, the project is worthwhile. Examples of such studies are harder to find than CE studies, and good ones even rarer, but multiple health check-ups have recently been analysed in a CBA context in the USA.[18] A similar study, in which different conclusions appear likely, is being undertaken in Britain.[80] In both studies the effect of routine multiple screening was measured in terms of differences in mortality, morbidity and health service usage between a screened and an unscreened population. Costs were defined as those borne by the patients and the health services involved in screening.

The procedure in such studies has two stages. First, all of the costs, to all those likely to incur them—health service, local authorities, patients and their families—must be identified. Similarly, all of the benefits have to be defined: days of sickness reduced, consequent reductions in loss of earnings, services used, family grief and suffering avoided. This stage, involving definition, is perhaps the easiest.

Then, both the cost and the benefit items and values are quantified, by a common yardstick, so that they may be compared. Do the benefits exceed the costs? Whenever the period over which a planned investment is being assessed extends to a number of years, the technique of discounting is used to translate future costs and benefits to a *present value.* The rationale and problems are discussed by Walsh and Williams.[83] This is the difficult stage. As we have seen, only under exceptional circumstances do the market prices for goods reveal their *social* opportunity cost as opposed to their opportunity cost to a particular group. This means that even the prices of such items as doctors' salaries, drugs, and so on, are open to the objection that they do not represent true social opportunity cost. Furthermore, on the benefit side of the equation there are no market prices for many 'items'—certainly not for pain, grief and suffering, nor for the value of a life saved. To varying degrees, therefore, the prices used for measuring the cost and benefit items are value judgments. It is important for the health service planner to realise this, to examine himself the implications of varying the cost and benefit values, and to ask whether the procedure used is reasonable in his opinion. For example, economists tend to use the value of a person's future earnings as one way of calculating the benefits of preventing his death. This means that the actual value of a prevented death will be related to age, sex, ability, and so on. On this count, the benefit from saving the life of a young man of 20 years is about the same as that of two boys under four years or three women! The planner may well wish to value the lives saved on a different—perhaps more egalitarian basis—and should simply proceed to do so. In order to do it he must, of course, produce a figure of money. If he does, then he will have articulated something of great planning importance. He may, of course, avoid the issue in two ways; by accepting the economist's work without comment (which would be a pity for the reasons explained above), or by deciding contrarily to the economic outcome of the cost and benefit calculation. This too is a pity, because it indicates that the prices which are being imputed by the economist are different from the prices in the planner's mind. The direction of the difference will be apparent from the decision taken, but the extent of the difference will not. Such valuations are *implicit* in all decisions, however routine, to put a limit on various types of health spending, from the preparation of national income given to the health service, to the size of the budget for district nurses.

Because all prices are subjective to some degree, the planner should take an active role in assessing the reasonableness of

the prices used. Indeed the usefulness of economics in planning depends substantially on planners familiarising themselves with the economist's approach. The planner will have priorities—such as increasing the use made of home helps or district nurses, and economising on the use of consultants' time. Or he might realise that the benefits of a particular plan will accrue to a number of different categories of people—some more needy than others—for example, the elderly and the physically handicapped versus the younger, temporarily sick. In such cases, he would be entitled to assign weights to whatever cost and benefit prices were produced—the weights reflecting the relative priorities in use and in benefit receipt. Thus, the actual cost of home helps and district nurses might be reduced by a negative weight, say 25 per cent, and the cost of consultants increased by, say, 50 per cent. This procedure would build into plans a greater use of the former, and economy in the use of the latter. But again, to be able to do this the planner should be prepared to think aloud in explicit priority terms.

SUMMARY

The practical use of economics in health service planning derives from the microeconomic applications of welfare and choice theory. There are one or two applied techniques based on this theory, but it has been argued that it is the underlying philosophy that is of the most far reaching planning importance. Health is a rather special commodity which happens to be difficult to quantify, so that many of the more ambitious economic techniques are of little immediate use. But the basic analytical methods of economics—stating assumptions, objectives, values, attempting to define a 'best' allocation of resources in accordance—are involved in the topics outlined. Their relevance for planning is at two levels. In the general appraisal of efficiency, the more pragmatic instruments like output budgeting are planning necessities if we are to be concerned with value for money. In the planning of specific programmes or services, the more immediate questions of choice can be interpreted in a cost-effectiveness or cost-benefit framework. There are certainly difficulties with these techniques, but their value is to separate the factual from the judgmental components of a decision and to bring together all of the relevant information. This does not mean that they are more than aids in decision making, but the scope for their use is enormous. They can be used wherever planning choices arise; not only for choosing between ways of organising care for specific groups of patients, but for assessing the value of different types of training, and decisions on who does what. Furthermore, alternative types of public spending, organisation and, even individual types of institution, can be scrutinised. Mechanisms for rationing services can be assessed in the light of the distributional objectives of the services, and practical suggestions, such as the hospital revenue allocation formula, made. In asking what we are doing, what we are trying to do and what the alternatives are, we can thus start to tackle both the biggest objective and the smallest targets.

I should like to thank David Piachaud, Miguel Sanchez, and members of the department of community medicine for their comments on an earlier draft of this paper. AC

4 RESEARCH AND ADMINISTRATION—THE UNEASY RELATIONSHIP

John Wyn Owen and Walter W Holland

'Research is the indispensable basis of proper planning'.[40]

Never has this been more true than during reorganisation in the National Health Service. Research into the organisation and delivery of health care is essential to government in policy making and to health authorities in deciding priorities and allocating resources. But research cannot be efficient in its conduct nor effective in its results without the cooperation of administrators. Research workers and administrators must have an understanding of each others' objectives and difficulties and must be able to work together.

The achievements and contributions of research to improvement of health services and to clinical care must be demonstrated as well as recognised. It is too easy for the administrators and clinicians to consider that by introducing a new service, better results will be obtained. An example of this is the introduction without proper evaluation of coronary care units for patients with myocardial infarction. The administrator, as well as the clinician, view the research worker in the health services with suspicion. They cannot understand, in many instances, how time-consuming research can really contribute to improvement of service. Improvement can only come, they consider, from experience and application of techniques. It is these attitudes that the research worker must try to overcome. And it is the aim of research to evaluate and assess how best to introduce new services and how to make the most productive use of resources.

The importance of this at present lies in attempting to demonstrate how the research worker can play an important role in deciding how to use scarce resources in the light of the reorganisation of the service.

POLICY, PRIORITIES AND RESOURCE ALLOCATION

The NHS is not a unitary system. It has various administrative levels with defined delegated authority and corresponding accountability upwards. The Secretary of State is ultimately responsible for the performance of the NHS and delegates certain functions to health authorities. The members of each authority work as a corporate body making collective decisions. The main duties of the members are to make plans for the provision of health services in their territory and to ensure that these plans, if approved, are carried out. Members will consult professional interest and will take the consumers' views into account through community health councils. They must have sufficient relevant information about provision of services to enable them to judge whether they are satisfied with what is being done.

The authorities delegate executive responsibilities to teams of officers. These teams submit plans and carry out the decisions of the authority. As individuals, team members give advice to the authority.

One key feature of the reorganised health service is greater emphasis on planning to improve and develop services to achieve the best use of resources. The fundamental unit in planning is the area. The area health authority's plans for communities within the area—the districts—will strongly influence the way in which national resources will be allocated. Major operational policies are carried out by a district. management team, which, with the health care planning team, needs to consider how to commission and make use of research findings in the assessment of how to deploy resources.

A second key feature is that planning concerns comprehensive integrated services. This leads to consideration of continuing care and prevention of disease in individuals and for the first time prevention will compete directly for resources at the operational level. It is this that necessitates a change in the attitudes and knowledge of those concerned in the administration of the health service, so that they can become aware of the potentialities and limitations of research findings and of other information which may be used in making moves now open to them.

HEALTH SERVICE RESEARCH

Interest in health service research has increased enormously in recent years. In 1964, the then Ministry of Health spent £0.6m per annum on operational research from the total NHS budget of £1000m. By 1972-3, this figure had risen to about £10m, of which £3.6m was spent on research into the organisation and delivery of health care, from a total NHS budget of about £2500m.

There are at present four main groups of research workers concerned with this. The first group comprises those working in university departments of community medicine, social sciences and management. Their research can be either applied, or basic and strategic. The latter is important because it often generates new ideas and new ways of looking at old problems. It would be a retrograde step if all university staff with an interest in some field which impinged on health policy had to be commissioned to carry out applied research. Each member of the academic staff of a university has the opportunity not only of doing research but also, within certain limits, of deciding for himself what research to do. He is constrained, however, if he requires the cooperation of colleagues, or even more so if he has to negotiate the terms and conditions of support from a grant-giving body. Research in universities allows new talents and ideas to emerge and safeguards against errors which could arise unremarked in a monolithic system.

Research workers in the second group are those in health services research units. These vary in size; they are usually multidisciplinary, and many are located in medical schools or institutes. Their range of work is wide and has been described.[59] They owe their existence to funds from large trusts or from the DHSS, which, by giving longer term support, have provided a secure basis on which to plan research investigations. The multidisciplinary approach is extremely important in research of this kind. The continual cooperation of various disciplines has undoubtedly broadened the outlook and furthered the education of all those involved.

Those in the third group are staff in the research and intelligence units of the health authorities. Their role is to provide advice to line managers. The number of units is small and so are the teams.

The fourth group consists of individuals—administrators, nurses and clinicians—carrying out research as part of their job or as an additional interest. The extent of this kind of activity is unknown but it is important and often overlooked. The availability of funds to support the work in future could well lead to increased individual research and could also indicate more precisely the nature and scope of such investigation.

The crucial question is: How can the research work of these four groups be related to the operational aspects of the health service now and in the future? How, in other words, can the uneasy relationship between research worker and administrator—who implements research—be made more comfortable and fruitful? The question can be tackled in two ways, first by identifying what research to carry out and second by deciding how to involve research workers in decision making. Finally, the health authorities will have to use research findings in arriving at decisions. In the past, few authorities commissioned research, or even reviewed findings before arriving at decisions. It is to be hoped that with annual expenditures of £5-10m in a district, and up to £50m in an area, such neglect will not continue.

WHAT RESEARCH TO COMMISSION

> *'Although health service research can be carried out in a theoretical framework, research can generally be more effectively designed if it aims to answer questions asked by those actually involved in the delivery of care.'*[46]

But there are problems. A research worker may wish to examine a policy which administrators regard as firmly settled, or one which administrators find too radical to consider. Even between these two extremes, grave difficulties can arise because of the different time scales within which the research worker and administrator are each constrained to operate. It may be that research is needed before an urgent policy can be put into effect, and a conflict arises between the administrator who wants quick results and the researcher who is reluctant to carry out a hurried and possibly unsatisfactory study.

The different demands of scholarship and policy making must be understood if people trained in these diverse traditions are to collaborate productively. Policy makers have to decide what to do and how to get it done. They must constantly base their conclusions on guesswork about many ill defined or unknown factors. Value judgment, the stuff of politics, pervades their work. Research workers, on the other hand, can make their contribution by defining the facts on particular critical questions (if only on a limited number of them) which seem frustratingly narrow to policy makers. They must also confine themselves to questions which can be answered and these may seem of secondary importance or even abstract; as Medawar has written

> *'Good scientists study the most important problems they think they can solve. It is after all their professional business to solve problems, not merely to grapple with them. That is why some of the most important problems have not yet appeared on the agenda of practical research.'*[62]

The conflict is simply between the particular and the general, and arises partly from imperfect realisation of the essential differences between the roles of the administrator and the research worker. The administrator must become aware that the problems must be broken down into their component parts and defined precisely before they can be researched. Usually the research worker has too few techniques and too little knowledge to solve a wide ranging general problem, such as how many beds a particular hospital may require. He is, however, able to answer specific questions—how many patients now in hospital could be cared for at home if facilities A, B or C were available? He can usually answer questions such as whether home or hospital care is better for a specific condition provided that 'better' is defined—that is, better clinically, or in terms of the patients' satisfaction, or in cost—although he cannot answer this question for all conditions. However, despite the fact that the research worker can rarely answer general problems, he, in turn, must be aware that the administrator has to answer them in some fashion. He must, therefore, indicate how far, and subject to what reservations, his findings may be generalised.

It is thus necessary for the research worker and the administrator to attempt to choose a specific problem which can illuminate the solution to the general problems. Easier said than done—there are other difficulties and facts to be considered in the selection of questions for research. Commissioned research must try to answer realistic questions formulated at a time when they can affect policies at national, regional, area or district level. Although local problems are naturally of concern, given the present limited resources for research, it is desirable that research at the more local levels be commissioned only if it has wider applicability. In addition, it should have wide implications in using the skills of research workers, in allowing them to develop new research tools or contribute extensively to new knowledge. This means a thorough knowledge by the administrator of the skills research workers have to solve the problems in hand. Choosing amongst many questions is, however, extremely difficult. At this stage no alternative appears to that of the administrator and the researcher working through many possibilities together.

A new system for the administration of its research funds is currently being developed by the DHSS. It must be hoped that support will be available from these funds for research as a basis for decisions at all administrative levels of the health service. At the same time, however, local mechanisms must surely be developed for identifying researchable problems, and

for having relevant research undertaken with the health authorities themselves. That done, there will have to be an agreed policy which specifies the respective spheres of internal research units in the DHSS, research units in medical schools funded by the DHSS, the research and intelligence units of the health authorities, and the management services units of the health authorities. At the same time, the role of the independent researcher in university and service post will have to be defined. In every case it is essential that the administrators and researchers agree both topics and research design.

INVOLVEMENT OF RESEARCH WORKERS IN DECISION MAKING

Decisions about policy, priorities and resource allocation will be made by health authorities. What part should a research worker play? He has four possible roles: he can be a member, officer or adviser of the authority, or he can be hired (commissioned) to solve a particular problem. But he cannot act in more than one role at a time—this is a very important proviso.

In research, a hypothesis is tested or a situation is described. In both types the method and the findings must be unbiased. In any observation error may arise, and in emotive studies such as of methods of health service delivery, assessment of results in terms of outcome, or in evaluation of attitudes, it is essential that no criticism can be levelled at the investigation that the research worker has deliberately influenced the result. We therefore feel that the best relationship of the research worker set to solve a specific problem is to be independent of the authority that asks the question.

In the reorganised health services it is proposed that research workers should be engaged as advisers to authorities or to teams of officers. They may in some cases become members of authorities. They should participate through professional advisory machinery, and joint appointments between service authorities and research units and academic departments should become common. But when research workers take part in decision making as advisers, they would be part of the corporate body making the decisions and prepared, if necessary, to reject research advice. But if they are advisers, they would be able to describe the content and the strengths and weaknesses of the research conclusions, and to offer a considered opinion on whether it would be wise to generalise. The decision makers must not abrogate their responsibility, and the researchers must not encourage them to do so. The latter have the right to be heard only by reason of their expert knowledge. A dialogue is essential.

This does not mean that the research worker cannot also be an officer of an authority. We cannot see, however, that a person can act impartially as an officer of an authority and also carry out unbiased research. His role as an officer or member, therefore, will be different to and separate from his role as a research worker. As an officer he will use his own experience in evaluating information available to him. But he will not be responsible for the initiation or conduct of an enquiry. He must, therefore, be able to exercise value judgment on the basis of conflicting results put before him by others. He can play an important role as a member or officer because he is able to present a considered opinion and is better able to judge the validity of many findings than others.

A DEVELOPING RELATIONSHIP

The experience at St Thomas' Hospital may indicate how some of the above proposals could work. In 1972, the board of governors and King Edward's Hospital Fund for London appointed an assistant clerk responsible for implementation of some of the findings of the health services and social medicine research unit, and, in collaboration with related health authorities, for developing health services to meet the needs of the community served by the hospital. In addition, he was expected to pose realistic questions at the appropriate time and so enable the unit to have a positive effect on the policies of the local health services. He became a full member of the hospital's administrative team. This was considered to be an effective way of identifying problems to be investigated, and further, the only satisfactory way at St Thomas' of planning and developing services.

All this could have been performed by someone in the research unit itself, but there were considerations which made it more useful for the person to be on the staff of the board of governors. From such a base, it was possible to identify more clearly with the administrators' requirements as well as having an entree to the major activities of the board of governors. A recognisable position in the administrative organisation is necessary to coordinate authoritatively and work with staff in the hospital and related agencies in the planning and development of services. The independence of the research unit is preserved if the administrator is not on its staff. More significantly, in planning and developing new services, research information is but one factor alongside others, such as what resources there are. An administrative position in the hospital can facilitate consideration of the wider issues.

Being on the administrative staff helps to identify and contribute to the creation of an administrative organisation necessary for implementing research findings and for delivering improved health services, as well as helping to identify areas for further research. It prevents research unit staff from making decisions on behalf of management, or enabling management to abdicate responsibility. In a planning role, the administrator himself is a consumer of research findings—a valuable position from which to consider them. Briefly then, the hospital appointment instead of one with the research unit reflects the hospital looking outwards, rather than a research unit looking outwards. The former is a consumer's viewpoint, the latter a marketing viewpoint. These are two very different perspectives.

We give four examples of the interaction of the research unit and the assistant clerk. One method of bridging the gap between research and practice is to develop policies which reflect the state of knowledge at one point in time, and to ensure that professional staff are aware of recent studies, including their shortcomings. Some results of studies by the health service research unit were used in formulating St Thomas' Hospital's approach to NHS reorganisation. Further, these were important background for a seminar which considered the hospital's administrative organisation. The seminar drew some useful information from the research work of the Brunel University's institute of organisation and social studies in preliminary considerations of how some difficulties might be resolved. The development of service policies for mental handicap, community psychiatry, geriatrics and

psychogeriatrics, and respiratory patients, has all been based on the research findings of various units. The administrator was coordinator of the working groups which were drawing up and implementing service plans. This entailed reviewing published research; identifying, with clinical and other staff, gaps in knowledge and principles on which services should be developed, reviewing local services, practices, demand for services and personnel available. The work led to proposals and policy for implementation by the board of governors and its staff. As the services become operational, they indicate areas for monitoring and for further research and evaluation.

The second example is a research project which was started to try to determine the facilities required for, and the consequences of, caring for people with very severe respiratory diseases in their own homes. The study has demonstrated on a limited number of patients the very great difficulty of caring for such patients at home and the inadequacies of the present staffing for enabling resident attendants to be employed and fostered in such a situation. The work led to consideration of policy. Three alternatives are open. The first is that these patients can only be cared for in hospital. The second is that sufficient resources will be made available, at whatever cost, for caring for such patients at home. The third is that appropriate residential facilities of a hostel type will be developed so that such patients can be cared for in a non-hospital environment which is better adapted to their care than their own homes. The impact of the research unit has been to demonstrate the cost, feasibility and consequences of such provision. And the project has been the basis for developing the hospital's policy for patients requiring mechanical respiratory assistance.

A third example is the development of a comprehensive policy for mentally handicapped people in Lambeth. This is not a research project, but a research worker was involved in setting objectives and in trying to formulate appropriate policy. Through his training he was able to suggest convincingly that, in view of the conflicting evidence and knowledge, a very simple method was required at first to provide some knowledge of the local situation. This method was the amalgamation of all registers of the mentally handicapped in the possession of hospital services, local authority social services, local health authorities, and general practitioners. This very simple solution should lead to a much truer appreciation of the needs of these patients.

The fourth example is the development of new services at St Thomas' for community psychiatry and geriatrics, based in part on research studies elsewhere and on the various operational principles of consultant psychiatrists. Topics of some substance, which would justify the time and skill of the research unit, have been identified. The findings would help not only the hospital staff but also government departments in formulating guidelines for the development of health and other services.

To decide what research should be undertaken is not easy, but a system of setting hospital-wide objectives developed by the assistant clerk at St Thomas' has helped considerably.

THE ST THOMAS' PROCEDURE FOR STATING OBJECTIVES AND TARGETS

Central to the stating of objectives and targets is decision making. This involves several issues at national and local levels which have to be reflected in the plans of the hospital. Aharoni has established a framework for decision making which is logical and which we have used as the basis for stating our strategic and tactical objectives.[4] It was adapted by the health service research unit as a basis for planning. It involves consideration of the ideal future, the stating of an objective not attainable within the planning period but pointing the direction of progress towards a target obtainable in the planning period, together with allocation of resources, development and implementation of a programme of follow-up and evaluation.*

Administrators at St Thomas' are encouraged to consider any proposals for the development of their services within the planning stage. They are asked to look to the future to determine the relative priorities of objectives. This prevents an incremental approach to planning. The present use of resources is examined in relation to comprehensiveness of care, access, continuity, cost, consumer expectations, use of community resources. Heads of departments are encouraged to participate in the exercise and the service is viewed against national, regional and local community needs.

The programme is that the administrators examine their present work schedule and future needs; medical staff continuously identify long term developments in their specialties; conferences of administrators and nursing representatives determine the main objectives and options before submission to the board of governors. The whole programme is subject to six-monthly review.

Progress to Date

Two submissions have been made to the board of governors; a detailed examination of the work of the hospital and a scenario produced by staff of the research unit of the medical care likely to be needed in Lambeth in 1984. This latter tries to forecast the health needs, to estimate the care required to satisfy these needs, and to predict what type of medical organisation is likely to exist in Lambeth.

Future Developments

The procedure for drawing up and agreeing objectives and targets has proved beneficial. It has encouraged more precise thinking about the aims of the hospital. Priorities have been put more clearly in focus in relation to the hospital's overall aims. The scheme also facilitates monitoring and control of the hospital's performance.

In stating objectives, more emphasis will in future be placed on monitoring and evaluating the outcome of services. Longer term trends have to be identified in order to anticipate changes in medical care as in the Lambeth 1984 scenario mentioned above.

The setting of objectives is not only useful for management but is also an important step in identifying topics for research by a unit such as ours. If longer term objectives are developed the questions posed would be answered wholly or partly before decisions are taken or policies implemented. This will reduce guesswork and should add substantially to the value of the research.

One exercise which demonstrates the value of examining objectives came when attempting a strategic plan for St Thomas' Hospital. This aimed to identify some of the constraints and assumptions that should be made about operating and planning the hospital. It was a review of the

* See also Chapter 1, pages 16-17.

disposition of hospital facilities for a period up to ten years. The assumptions have been considered as a basis for research by the health service research unit. The intention was to identify not only research topics which would be useful to the administration at some stage in the future, but research that could be undertaken before decisions are made. The studies suggested would contribute extensively to the body of new knowledge and to the development of new techniques or findings which could be more generally applied. Proposals for research in geriatrics (including the wider issue of the place of an urban community hospital), in psychiatry, information systems, obstetrics, and referral to teaching hospital, are being discussed with administrators, clinicians and research workers.

The assistant clerk has been associated with the committee of community medicine. This is a 'cogwheel' division in the St Thomas' medical advisory structure.[33] It provides an important forum for preparing plans with local authority, social services, community health services, and general practitioners. It has identified local health delivery problems and its subcommittees have begun to function as health care planning teams. One major feature of the committee vital to this discussion is that it includes members of the health services research unit. The chairman is a research worker and teacher, but as an officer of the committee is better able to judge the validity of many findings than others. This is an individual role rather than that of a research executor. In many ways, the committee is the forerunner of the joint consultative committee and joint intelligence units proposed by the working party on collaboration between the NHS and local government.[26]

The experience at St Thomas' indicates that successful implementation of research policy is highly dependent on the commitment of senior administrators and clinicians. Equally important is that those actually responsible for conducting the research be involved in discussion of policy resulting from locally conducted studies. Experience also indicates that research from various quarters should be used by health authorities, and that the planners and administrators must seek out any research findings relevant to their work although it will not always be possible to involve the people who undertook the research. The DHSS, through its planning guidelines, can do much to encourage adoption of research findings. There must be a major effort by the health authorities to establish the aims and objectives of health care organisation, and to identify in good time the subjects which require and justify in-depth research.

CONCLUSION

We have attempted to identify some of the major problems in the relationship between research and administration at the local level in the health service. We have stressed the contribution that research workers can make in the consideration and implementation of new policies, and in putting forward imaginative proposals based on research for the development of health services. Their impartiality could make them invaluable commentators and advisers on current proposals for development. Bridging the gap between the research workers and the administrators will not be easy, but it is crucial. A project concerned with the implementation of research findings and posing problems for research units at St Thomas' has identified some of the features in this relationship. Success depends on clear statements of aims and objectives by research units and by the health care organisation. It must involve researchers in the development of services based on the findings of research. It is centred on officers who have joint appointments between academic departments and service authorities, and on plans which enable research to be carried out and new tools and disciplines to be shaped for work in the health service. The cementing of the bond between research and service at various administrative levels may enable detailed studies of health service problems to be tackled more constructively.

The relationship between the research worker and the health authority and its officers must be worked out clearly. If the research worker can be independent of the authority and its officers, it seems likely that his findings will have more credibility than if he is a member or officer of an authority. Nonetheless, he must also be involved in the setting of objectives for research and for tasks in the service. This involvement can prevent the difficulties that have arisen in the past. The major difficulty between the researcher and the administrator is that the latter poses general questions which the former is unable to answer. To overcome this, the research worker must work with the administrator so that he may advise on the application of his findings and prevent false generalisations being drawn from his investigations. This will require a substantial but vital change in attitudes.

5 WHO PLANS?

John Wyn Owen and Bryan McSwiney

Traditionally, planning in the health context has been concerned mainly with buildings. But, with the reorganised National Health Service, the emphasis is changing and the scope of the term is widening. Planning will now be concerned with people.

Real health needs must therefore be identified, decisions taken and periodically reviewed so that the order of priorities may be updated. Plans to meet these needs must be worked out and put into action, and they must be assessed and modified as ways are found of increasing their effectiveness, or as needs change. Planning must also allow the public to express wishes and preferences. A smoothly interlocking range of services must be developed to cater as completely as possible for the health and social needs of the population.

The emphasis on effective management should also bring positive gains to professional workers. They will have the opportunity of organising their work better and of playing a much greater part in the management decisions taken in each area. And the systematic and comprehensive analysis of needs, priorities and evaluation of services that will lie behind the planning and operations of each area will help professional workers to ensure that their skills bring the greatest benefits to their patients.

SKILLS REQUIRED

Four areas of competence can be identified.

1 human dynamics, diplomacy, influencing and manipulating people, group discussion and communication

2 planning techniques, skills and methods

3 political understanding of national and local issues

4 knowledge of health in its broadest sense.

Douglas Brown of Cornell University stresses that skills such as persuasion are placed higher in order of importance than technical competence.[10] That is not to say that technical competence and awareness of the health system are not considered necessary—undoubtedly they are. But interpersonal and political dimensions are believed to be the more essential.

The requirement to plan has always been implicit in the jobs of professional staff. The McKinsey Company, however, estimates that top management in the health services has only spent 7 per cent of its time on planning. In the reorganised health service this proportion is expected to increase to 70 per cent depending on position in the management structure.[58]

District Community Physician

The starting point in the planning process is the community's need. At patient care level, this has been defined as what the doctor decides the individual patient needs. At community level, health needs will be assessed by the district community physician by means of analysis of information on health service performance, periodic surveys of the population, and comparative analyses of different forms of care. He will contribute his epidemiological skills, will ensure that health care information available to the district management team or health care planning teams is of appropriate quality and relevance, and he will play an important role in the interpretation of information. This will entail monitoring of operational activities, but the district community physician will in no way undertake a clinical audit or interfere with the clinical autonomy of individual clinicians.

The training of doctors for these posts is underway and new recruits are being sought. There are several teaching consortia to train future community physicians, but at present the number of trained, qualified district community physicians is limited. This will continue to be so for some time. Support for the district community physician is therefore crucial, as is the limitation of his activities to those for which he has relevant background experience and skill. In conducting special studies of the health needs of the population, for example, he will need the assistance of a multidisciplinary team, preferably including administrative and operational staff and those with skills in sociology, economics and statistics. The routine collection, processing and analysing of information should be carried out by medical records and management services staff where these include computer staff. As far as possible, academic units or health service research units should be enabled and encouraged to undertake special projects. This would have several fringe benefits; an improved dialogue between research workers and practitioners, and an increased likelihood of the applied research carried out by such units being related to specific practical problems.

In *Management Arrangements for the Reorganised National Health Service,* the district community physician is envisaged not only as contributing his knowledge about needs of the population for health care, but also as drawing together the planning work of clinicians, coordinating other team members, and seeing that the related operational and supporting services are complementary.[28] This raises several points, such as the role of administrators of all disciplines in the planning process, the relationship of the district community physician to other clinicians, and the danger of diluting his main contribution.

A characteristic of the health service is that the provision of health care is usually team activity. Different skills have to be

combined in various ways to meet the needs of individual patients. Different professions must come together to plan and coordinate their work. Coordination between professions at all levels should be easier in multidisciplinary teams which are consensus bodies sharing joint responsibility. The district administrator provides administrative support and his role includes general administrative coordination to ensure that the total programme is coordinated in its planning and development.

District Administrator and Health Service Planning

What is implied by the term 'coordinator'? Is it an essential role? How does general coordination by the district administrator relate to the district community physician's coordinating role? Coordination is essential to help blend various parts of a complex system into an effectively functioning service. In all cases, the coordinator can only work within the framework of some specific task, the definition of which is for negotiating coordinated work programmes, arranging the allocation of resources or seeking additional resources where necessary, and monitoring progress. In carrying out these activities, the coordinator has authority to make firm proposals for action, to arrange meetings, to obtain first hand knowledge of progress and to decide what to do in situations of uncertainty. It is not part of his role to make formal assessment of the general quality of the performance of those whom he coordinates. In cases of sustained disagreement, he has no authority to issue overriding instructions.

Effective planned change cannot be achieved in a standard package or by prescription, nor by the haphazard approach of running many activities, hoping for good results. Action must be specifically designed for the needs of the particular health district, recognising individual requirements. The coordinator must be prepared to be counsellor, trainer, diplomat, and line manager, taking account not only of personal and group relationships, but also the technology, organisation and tasks of the staff. At any one time, he may be fulfilling any one or any combination of a variety of roles. He should be able to intervene effectively at appropriate points and to know when not to intervene at all. He is both an insider and an outsider in debate or conflict. As an outsider he may have a coercive function. His orientation may differ from staff within each professional group, and, as such, could be useful. As an insider he will have authority to do certain things and be in a position to develop an understanding of the need for change, to appreciate the concern of staff, and yet be in a position of authority to initiate constructive action. Many problems can and should be dealt with on a common sense basis. Effective coordination will reduce the number of referrals of unresolved problems or conflicts between members of the team to the health authority.

If the district community physician were to take on this responsibility, it would weaken his contribution as a specialist in community medicine and detract from the attention he could give to adequate consideration of alternative patterns of care and setting standards for measuring performance. The relationship between district community physician and clinician is crucial. There is every possibility that it will be harmonious and constructive. The seeds exist for the opposite. Although it has been clearly stated that the district community physician will not in any way challenge or interfere with the clinical autonomy of the individual clinician, it will be a difficult course to follow. To place an administrator in the coordinating role would enable the district community physician to concentrate on health needs and consolidate his position as a consultant.

In planning, coordination is substantial. It involves ensuring that the plans and their components are compatible not only with needs, but also with community expectations and with national, regional, or area priorities. Further, the coordinator must be responsible for seeing that the plans can be programmed and are realistic in their staffing requirements; that financial resources, both capital and revenue, are available; and that the physical design and architectural aspects, engineering, supplies and other logistic factors interlock. Even health care planning teams will have to relate their activities to all these aspects.

Expectations, Administration, Time Scales

One of the major criticisms of planning has been that plans have been unrealistic—they are simply not feasible given the resources available. This is now of paramount importance as material shortages multiply and prices escalate. Another cogent criticism has been that when the resources are available, they are programmed over such a long period that the initial objective ideas are no longer relevant when the plan finally comes to be implemented. Realistic plans related to resources and expectations must be formulated. The time element and resource requirements must be fully appreciated by all—not only the planners. Only thus can disappointment of unmet expectations be allayed. Implicit in this is the ability to arrange the planning cycle successfully. This will demand careful organisation of work and people, delegation of tasks, communication, participation by all those who should be involved, progress chasing, review, setting realistic objectives and time scales, forecasting resources of people, money and plant, timing of discussions and logical progression of problem-solving and work, not over-involving professional staff, and carefully reviewing options.

Implementing plans will entail a further aspect of coordination between those drawing up plans and those responsible for operational activities—a development phase. This in itself is a formidable task. It will demand management skills and knowledge of various aspects of health service delivery, and could become part of the district administrator's responsibility. Thus, planning and service development will be a substantial part of his job, but he will require assistance from an experienced senior officer on his staff. This individual should have worked as an assistant in planning and should be expert in either statistics, economics, sociology or related social sciences. He should also have a broad understanding of management theory. He will supervise the assistants working in planning and second some to assist the district community physician.

The argument thus far attempts to answer the challenge of who plans and suggests a central role for the administrator in planning and development. Taking a dynamic view of planning, and acknowledging the importance of development of effective service delivery, the community physician's contribution is that of strategic medical intelligence. The administrator's role is to interlock the various planning proposals of the various professions, test these against community opinion and negotiate funds and staff for implementation. A job description for an administrator involved in planning is given in the Appendix (page 45). Success in this job will demand new skills and knowledge.

Research and the Administrator

The Fulton committee said 'Research is the indispensable basis for proper planning'.[40] The administrator must know what research has been undertaken or is in progress, and must also be able to identify topics for research. Research, however, is narrowly defined. More often than not, it gives only general answers to the specific problems facing the administrator. He must develop knowledge of the limitations of research findings as well as expertise in judging their quality. The medical aspects of research in health care delivery will be interpreted by the district community physician. But the administrator in health service development must be able to work out for himself the relevance of research in related fields, such as the social services or statistics. This will demand certain intellectual qualities. Processing the plans, consulting professional opinions and seeking funds will demand management and negotiating skills, knowledge of the health system, and some element of diplomacy in seeking the views of the community through the community health councils and in presenting proposals through the area health authority or at the joint consultative committee. The administrator will have to be skilled in problem solving and knowledgeable about statistics and computing, elementary demography, health service delivery systems, psychology, sociology including professionalism, administrative theory (management of change, organisation development, strategy and tactics), theory and practice of government and design of buildings.

Education or Training for Planning

Providing these skills for the administrator in health service planning and development can be viewed either as a training or as an education problem. Should programmes be university based? Is there adequate continuing education as a part of a total strategy of health service management education so that staff can step into or out of the planning role? These questions range wider than just the role of administrators in planning. The development of functional management endorsed in *Management Arrangements for the Reorganised National Health Service* make them of great concern. If the wider context is not considered, there is a danger that planning could be seen as a dead end, or that it may not give opportunity to draw in staff who have other qualifications essential to planning, or for planning staff to contribute in a much wider management arena. In any case, functional management must be the management of activities by managers drawn from the health professions themselves. All these managers should then become eligible for senior administrative positions including those in health service planning and development.

So far in Britain, we have concentrated our efforts on training rather than education for health service staff interested and involved in management. There have been comprehensive arrangements for the recruitment and development of management skills and practice as part of an integrated career structure for all administrative staff, whatever their method of entry to the service. There is a national scheme for graduate entrants. But we are training individuals in subjects of immediate relevance to the specific jobs they are doing or are about to do. This preparation is based primarily on past and present practices within a bureaucratic framework, and such limitations are counterproductive for the preparation of those whose tasks will be to redesign or change existing structures, to consider the effectiveness of the way programmes within the service operate as a whole, to research and list proposed solutions to emerging problems and to teach these new operational and evaluation techniques. If one takes the educational standpoint, the concern must be to provide intellectual tools to help administrators in planning and development to understand economics and those aspects of social psychology such as motivation and morale, and the relationship between these factors and different types of organisation. Administrators should also be encouraged to think as far as possible in quantitative terms without at the same time becoming uncritical quantifiers of fundamentally non-quantifiable information. Health service education should be based on the principles of logical and orderly thinking which can be applied to new situations and circumstances as they arise, rather than on the accumulation of specific information which quickly becomes dated. Educational programmes should prepare candidates for the field as a whole rather than for a particular position. Practice is changing so rapidly that training for a specific post is wasteful. By the time the candidate has graduated, the position may no longer exist in the same form. Educational programmes are more flexible. Although they acknowledge the need to keep up to date with current events in health, they tend to use the service as a focus for the other main objective—research. Educational programmes must, if they are to follow university traditions, perform and teach research. The service aspect of an educational programme is usually directed towards innovation in the practice field or in programme evaluation, where objectivity is central to its service role.

Education of Administrators and Health Care Professions

We must develop a strategy for health service management education. This includes the development of basic professional skills such as those advocated. Further, the requirements of the roles of other health care administrators from medicine, nursing, administration and finance, and the current heavy emphasis on internal cooperation within the health service suggest that it is essential to develop a planned and coordinated structure within which all administrators, whatever their difference of discipline or professional background, can be assured of an interrelated and continuing educational experience. In a system which is to be numbered amongst the ten largest organisations in the world, it seems tragic that those responsible for its management should still be trained so erratically and divisively.

CONCLUSION

So, in the reorganised National Health Service, who plans? We have tried to show that planning is now regarded as a dynamic process, concerned with increased effectiveness of health services, fully coordinated with related agencies and reflecting the views of consumers. And there are really two main aspects of planning for health—the identification and review of the real health needs of the population, and the coordination of the planning cycle and development of services. The first is the undisputed area of the specialist in community medicine, supported by health services research staff and administrative specialists, including computing sciences and social sciences. The second is the province of the professional administrator whose recruitment, education and role must be defined and established as a matter of urgency.

The success of our health service depends on imaginative, flexible and effective planning, and this will only be achieved if the two aspects of the process complement and support each other.

6 PLANNING— WHAT TO EXPECT!

Brian L Donald

THE EMERGENCE OF PLANNING

In the UK, as elsewhere in the developed world, rising aspirations and increasing costs of medical care present a considerable social, political and economic dilemma. The situation apparently calls for administrative reorganisation to clarify responsibilities and the introduction of systematic planning to sharpen choices of priority.[61] Britain's recent measures are the most dramatic and comprehensive to be taken to meet the dilemma since it was perceived in present terms. It is both inevitable and appropriate that planning should feature so prominently in the management arrangements adopted.[28]

In theory, planning is concerned with deriving an integrated set of operational objectives and standards of service from a systematic analysis of the strengths and weaknesses of the organisation and the opportunities and threats of its total environment. The analysis must be continually related to the basic purposes of the organisation which will, as in the case of the doctor-patient relationship, impose constraints on the choice of particular objectives and on the way in which they can be implemented.

The planning system and its formal contents will normally be defined if it is to prove effective. Subsequently, we will examine an outline of what the new NHS system comprises. However, planning in the more general sense is concerned with

POLICY CHOICE AND SELECTION
the adjustment of operational objectives and broad strategies for meeting them to changes that occur in needs and in the organisation and its environment

PROGRAMMING
further definition of operational objectives and service standards in terms of timed targets fixed with regard to the likely availability of resources

BUDGETING
the allocation of facilities, manpower and capital and revenue finance to the implementation of the agreed programme

MONITORING AND CONTROL OF ACTIVITY AND EXPENDITURE
designed to maintain and correct action and expenditure to achieve the agreed targets.

As we shall discover, the formal system of planning in the NHS is confined to the first two of these items. In the sense that processes can be either piecemeal or systematic, the introduction of planning is not a radical innovation. It represents attempted improvement of present decisions by arranging their integration on a particular and more formal and systematic basis. Hitherto, in the NHS, key decisions about standards of need, service and resourcing have been carried by the budgetary process, often in an implicit, obscured and inappropriate way.

Despite this apparent inevitability, health professionals and administrators react sceptically to mere assertions that 'planning is good'. Hitherto, they have relied upon piecemeal and intuitive approaches to those decision-making processes now to be tackled through a more logical, systematic and formal planning system. Whether piecemeal or systematic, management decisions are concerned with the fundamental goals of effectiveness, efficiency and equality. The aim of health managements should be to

> ensure equality of access to skilled advice and care for everyone in need
>
> promote effectiveness in meeting health needs through prevention, cure, care and comfort
>
> secure efficiency in the use of the resources of skilled manpower and specialised facilities deployed for health care.

To these ends, management in health care must be concerned in one way or another with the planning, organisation and control of all activities. However, it must exercise these functions with regard to the organisational climate and the type of relationships that will ensue. Illness calls for compassion; patients require comfort. In our contemporary society, they may fail to cooperate without privacy and confidentiality. Doctors may fail to meet the social and psychological needs associated with treatment if management impairs the relationship between doctor and the individual patient. As we shall see, the necessary guarantees for an appropriate doctor-patient relationship, and for the clinical autonomy this entails, place important constraints on the freedom to manage.

It is in this setting in the past that the organising function in health care has been characterised as a 'reactive administration' pursuing goals and strategies appropriately determined by others. Now the situation appears to demand a 'pro-active management' itself trying to marshal priorities and exert a more explicit control on the way they are determined and implemented. While there is an initial welcome for the clarification of priorities, allocation of resources and responsibilities that will result, there are unspoken reservations about the feasibility of implementing plans determined so explicitly. Some loss of flexibility may be suspected, in terms of ability both to react to events as they occur and to manoeuvre to accommodate informal pressures, forceful groups and personalities. Clear cut, promulgated decisions about what is feasible with given resources may

discourage those who still must face the importunities of the sick while receiving only a low priority. Many in health management have won their spurs through being good individual managers in a crisis; now they must undertake the strange and difficult task of consensus planning. Professionals and administrators experienced in the old ways look for proof of what can be achieved through the new.

DEVELOPMENT OF THE NHS SYSTEMS

The early stages of reorganisation, and the antecedents of the adopted system, provide in themselves some evidence of its nature and potential. The reorganisation was preceded by a period of gestation from 1968 to 1974 during which considerable thought must have been given at one level or another to the technical problems of planning.[30 31 34] While reference is made among the 'surfeit of prospectuses' which preceded the reorganisation to the need for a planning function, its crucial importance to the success of reorganisation does not appear to have been publicly recognised until very late. However unfortunate, this is understandable. The political feasibility of the interdependent reorganisations of social services, health services and local government, dominated the attention of politicians and administrators. Moreover, in government or out, people concentrate initially on getting organisational structures right while paying too little regard to the effectiveness of the processes that will enliven them. Structure and processes should be devised together and be contingent upon the objectives to be pursued and on the setting. In the case of NHS reorganisation, their consideration was delayed until after the organisational skeleton was agreed. This has meant that the planning sytem, when taken in its turn, has had to be considered in an unpropitious and changing economic and managerial climate, with the system being introduced not only on an interim basis but in a halting style. The preoccupations of carrying through the details of reorganisation with attendant scarcities of appropriately skilled managerial staff and a period of acute financial stringency, make universal operation of even the interim scheme unlikely before 1976-77.

However, on the positive side, the committee on management arrangements, so far as they could within available time, concepts and techniques, provided a specification for a planning system which seems both valid and feasible.* In particular, those who see planning as a paper storm, should recognise that the Rogers committee's specification avoids the pitfalls of PPBS (planning-programming-budgeting systems) as experienced in the Health, Education and Welfare Department of the United States.[50]

The American experience indicates that multiple and ambiguous objectives of prevention, cure and care, and the absence of indices of effectiveness and quality limit the success of PPBS. The attempt to overcome fundamental problems within what is a very comprehensive approach to all aspects of planning outlined above, multiplied data without proportionately increasing information or, initially, the effectiveness of decisions.

THE ADOPTED APPROACH

An alternative approach has emerged and can be associated with McKinsey's experience of introducing corporate planning into many different organisations. This identifies needs and how they should be met as the key decisions in health. It does so without a complex preliminary analysis of existing expenditure, and without burdening planning with more budgetary detail than is strictly required. The Rogers committee specifically called for a planning system which

- had as its focus not problematic objectives but patient groups and their needs (for example, the elderly, children)
- used agreed targets and standards of care for planning and monitoring
- was based on realistic future allocations of finance
- was related to, but not integrated with, a budgetary and costing system
- was the principal form of control of one management level over another, facilitating delegation and limiting intervention to key issues
- was comprehensive in scope embracing all groups, needs, services and resources, covering in outline the ensuing ten years and in detail the ensuing four years with budgetary commitment for the first year
- involved the updating and rolling forward of existing plans within an annual cycle of planning activities
- necessitated within the hierarchy of management authorities a tidal flow of allocations and guidelines down, proposals up, approvals accompanied by budgets down and reports on implementation up
- was based on plans being prepared for each health care district, the basic management unit and the lowest management level at which services can be integrated.

As the overall specification for a planning system, this seems impressive and appropriate. However, it overlooked, perhaps with deliberate optimism, some of the weaknesses of technique and hazards of implementation. These were recognised more widely with the announcement, preparation and conduct of field trials during 1973. They included

- difficulty in defining health needs objectively and differentiating them from wants, demands and response to supply
- gaps and overlaps between care groups
- ambiguity of standards of care often expressed by proxy in terms of services provided or resources deployed and not in terms of outputs
- inadequate understanding of the relationships of benefits and effectiveness to cost
- necessity to develop skills and organisation for planning
- the need to avoid an administrative overburden for authorities and officials still carrying through the reorganisation.[27]

The difficulties reinforced the decision initiating the field trials. The intention has always clearly been to develop an interim system aimed at establishing procedures and notably using familiar concepts and readily available data.

* The management study steering committee (Sir Philip Rogers: chairman) was appointed in June 1971. In support, management consultants were appointed from McKinsey and Co Inc, and from the health services organisation unit of Brunel University under Professor Elliott Jacques. They reported in October 1972 leaving only 18 months to the appointed day for the preparation for reorganisation, among other things, of an operationally feasible planning system.

What follows is largely based on reactions and discussion among professionals and administrators stimulated by the field trials rather than on official publication. There is no official pretence that the early attempts at planning will be perfect.

DEVELOPMENTS SINCE DECEMBER 1973

The trials have been evaluated and the system developed further in a changed and possibly hazardous political and economic climate. The economic and budgetary crisis of December 1973 led to arbitary and apparently severe cuts in at least the first of the ensuing five years' allocations of public expenditure to health. To some administrators, the scope and suddenness of the cuts indicated possible unreliability in long term allocations without which realistic planning is impossible. Clearly, the reaction to the cuts might have been an emotional response to the uncertainties of accelerating inflation and to uncertainties about allocations for the first year of the new organisation.[71]

Before assuming office early in 1974, the Labour Party had seized upon inequalities in health services and on the need to find new methods to overcome expenditure imbalances between health regions and neighbourhoods of deprivation within health districts.[52] Inequalities in health were further highlighted by academic and professional publications.[64 79] On assuming office the Labour Party wisely superintended the reorganisation of the NHS without major alteration. The Party's reaction to the developing health planning system is not public knowledge and its likely form can only be inferred from the Party's earlier misgivings.

THE ESSENCE OF NHS PLANNING

Purpose

Accurate identification and measurement of health needs would permit the integration of the objectives of effectiveness, efficiency and equality as discussed above. Certainly administrators had to resort, to a large extent, to the concept of fair rather than effective shares as the major criterion for allocations between the previous hospital regions. Despite dissatisfaction, revenue allocations to regions recently have been based partly on per capita shares and partly on the costs of maintaining immobile facilities inherited initially by the NHS. Growing dissatisfaction with the discrepancies in provision that such a formula perpetuated led to a recent modification so that at least financial per capita equality could be attained by 1981. Per capita equality implies that equal amounts per head of revenue will be allocated irrespective of levels of facilities or rates of capital investment achieved by 1981. As such, it is a step nearer to making revenue allocations on the basis of need, at least as measured by population.

The reader should understand that it has proved difficult, if not impossible, with present concepts and indices to distinguish statistically between need, demand and the response to supply. Practically, this is confirmed by the oft noted phenomenon that waiting lists and times rarely decrease permanently with the provision of increased facilities and service. Frequently it seems that as additional facilities are provided the health care tasks in question are redefined. The additions seem to lead to the adoption of new treatments, or techniques or to higher standards of treatment or care, or demand, hitherto suppressed by knowledge of scarce facilities and waiting lists. Whatever the mechanism, the effect is such as to suggest that supply creates its own demand.

Recognition of this makes determination of priorities between, say, the new health care districts, subjective and hazardous. Regional and local variations in the incidence and causes of morbidity, and in waiting lists and waiting times, have to be interpreted in the light of the local and developing patterns of facilities and services. Their interpretation is frequently subjective and controversial. Consequently any review and approval of local priorities by a superior level of management must be undertaken in the light of sufficient and appropriate knowledge of the locality. It is this function that provides the most substantial justification of the regional tier in health administration, which was dropped in the initial schemes for NHS reorganisation but subsequently restored.

The possibilities are remote for devising health needs or other formulae for automatic distribution of funds to levels below regional level. At regional level, the scope is large enough for the effects of differences in the levels of health care provided for different districts to be considered as self cancelling. This makes resort to a crude '£s-per-head' formula tolerable.

The new planning system seems superficially to offer a chance to depart from the unsatisfactory bases for allocating revenue finance. Plans, after all, are to be based on groups of patients and their identified needs. Unhappily, this hope is unlikely to be realised in the near future. As argued above, health care needs cannot yet be converted satisfactorily into a single index of need, such as numbers of patients per thousand population awaiting treatment. Instead, the whole range of factors—incidence of morbidity, numbers waiting, time waited, management of waiting lists, level of services provided and how it is changing—must be considered. Only a scenario in prose and statistics makes sense. Yet the reduction of the needs and plans of 205 English districts through 90 areas and 14 regions to a national grand scenario does not seem very feasible. It is more likely that policies for groups of patients and services will be drafted on a national basis, and a scenario of these will be compared with gross national resource availabilities. The resulting conclusions will be focused on programming within the NHS through policy guidelines and the continuation of a regional budgetary distribution which, with possible improvements in technique, may be refined gradually to reflect need rather than fair shares.

Region to Area

The process of allocating resources further in sufficiently critical masses to permit effective development will continue at regional and area levels where the scale of local knowledge is appropriate. Here one district's priority will be weighed against others, so that each in its turn, according to priority of need, gets enough resources at one time to make a chosen development effective. In this way, regional health authorities will be likely to become the high water mark for the analysis and approval of detailed district plans. Only the occasional spring tide of scandal or a national policy initiative will sweep appropriate parts of district plans up to the level of the DHSS.

Two Levels of Policy

In the abstract, the separate phases of planning can be represented in turn.

policy selection (determination of objectives)	*top management*

strategy determination (selection of strategy) programming and budgeting	*middle management*
implementation monitoring and control	*junior management and supervision*

Although this simple model lacks realism even for business, it illustrates the acceptance of hierarchy and the effect on planning. In business, a management hierarchy is still, in relation to ownership, generally acceptable though sporadically under attack. Policy selection is predominantly a top management activity. Consultation and participation are limited to what is strictly necessary for informed and, from the viewpoint of their implementation by the workforce, psychologically acceptable decisions.

This simple model is inapplicable to health care. NHS corporate planning is typified by a complex relationship between the levels of management each contributing equally to planning decisions. There has to be a continuing approach to the determination of need which takes in not only the top management of the DHSS but those at every level, including clinical level, who not only assess need but, by the exercise of autonomous clinical judgment, actually define it. Moreover, the system has to accommodate democratic public participation as well as staff participation at the periphery. Consequently, it would appear that policy selection and programming will be much more interdependent. Major aspects of policy selection will occur at all levels. Attention and effort have been focused initially on devising a programming system for planning to be implemented as the NHS interim planning system. Even the interim system, however, has to assume that the longer term, more basic, strategic decisions and policy choices will be taken in other ways. Such an approach is justified by the need to establish the disciplines and information processes of a formal system for planning. However, there is the risk that attention will focus initially on the mechanistic aspects of programming and the inappropriateness of some strategic decisions will be masked. Subsequently, conventions for strategic decision making in health care will emerge or systems will be proposed. However, the decisions about the rationality of strategies and methods will remain largely subjective until techniques of evaluation and measurement are perfected and applied. Subjective choices about health goals will continue to be mixed with inappropriately subjective choices about means.

In health care, clinical autonomy and local variation in services and unmet needs certainly mean that policy selection must be influenced to a maximum degree by operational factors. While the most significant changes of objectives and standards will be effected nationally, only rarely will changes of priority be immediate and universal. This means that the relatively disparate and unsynchronised policy choices at several levels will require considerable coordination. Intentionally, planning has been introduced to the NHS through the programming features of the interim system. This will serve to transmit information and portray the priorities being achieved for particular chosen policies. In this way, further national policy choices should be related to the realities of the operational situation and allocations of resources at district level. However, as the crucial detailed district planning statements or scenarios do not penetrate to the highest levels, there is some possibility of misconception and conflict between 'top down' and 'bottom up' views of priority. Presumably, procedures and criteria for approving plans and committing resources at area and regional levels must concentrate on eliminating local choices based on inadequate information, and on unjustifiable disregard of nationally determined targets, rather than on detailed re-working of all information and decisions embodied in, say, a district plan. The reconciliation of all views will call for great insight from RHAs and regional staff of the DHSS with which to interpret the national and local levels of management to each other.

Patients and Professionals

The right to treatment during sickness and the compulsion to care for the sick are basic to British society. Responding to health needs now uses considerable resources but compassionate values dictate that the response should be appropriate irrespective of the sick person's means or market forces. Such compassion now has to be contained within the NHS as a socialised framework for medical care.

General enlightenment and the rise of 'consumerism' now ensure considerable support for the belief that the clients or patients, as well as the administrators and professionals, have a valid and legitimate view of needs and how they should be met.

The reorganisation of the NHS, outside the framework of democratic local government, has led to fear of unhelpful bureaucratisation. The need for public participation in management has been recognised, so that the community can influence official definition of health needs, and customary compassion and voluntary concern can be incorporated into the official framework. In consequence, the administratively novel community health councils have been created. It is intended that they will be involved in, rather than merely consulted about, planning and the determination of local health needs.

The gradual socialisation of medicine has been effected at every stage by an official determination to preserve the clinical autonomy of doctors in the interests of an appropriate professional relationship with their patients. Management is thus firmly excluded from the crucial decisions to admit patients to hospital, to treat and to discharge them; decisions for which the clinician is solely accountable to his individual patient. Management, by convention, is thus prevented from intervening in clinical decisions and to this extent management control extends no further than the deployment of resources.

Clearly, the deployment of resources involves the definition of policies of medical management; that is, appertaining to the organisation of medical services as opposed to the clinical management of individual or small groups of patients. Thus, for instance, decisions will be taken by health authorities, officials and medical staff advisory or executive committees, to concentrate specialised work such as the paediatric surgery for a large area in a particular unit. Equipment, nursing and ancillary staff will be deployed accordingly. However, in clinical practice what properly constitutes paediatric surgery may be difficult to define and therefore controversial. Individual surgeons, who may have been isolated from the policy decisions, may legitimately feel these decisions are misconceived. For some time, they may persist in a clinical policy that conflicts substantially with that for medical

management. The apparently alarming effects of such independence are naturally modified in practice. Very few clinicians will disregard any obvious hazard, and informal pressure from colleagues can be an effective coordinating instrument where a joint interest is sufficiently prejudiced. Nevertheless, clinical autonomy is highly valued; where a joint interest is not at issue, clinical colleagues and administrators may be reluctant to intervene and there are areas of potential confusion. Thus, to a much greater degree than would be the case in business, clinicians must be involved in the planning process in order to ensure they identify with the chosen NHS objectives and integrate their clinical plans with service plans.

Local Politics

Setting priorities between groups of patients is frequently fraught with ambiguity and controversy. There is no automatic indexing device for arranging priorities, such as expected return on investment. Different views prevail at different levels of society and of the NHS. In allocating priority at higher administrative levels, the authorities will issue priority guidelines as part of the annual planning cycle. Planning guidelines are likely to take the form of the attainment of a standard of service by a target date, preferably expressed in output rather than input terms.

How prescriptive and how mandatory should these guidelines be? Provision must be made for the rejection of guidelines if needs of higher priority can be established locally. What is not yet clear is on what basis superior local priorities will be recognised? For instance, if the local need to reduce gynaecological waiting lists is seen to have higher priority than a national policy for the extension of free family planning, whose view will prevail? Do local community health councils, gynaecologists, general practitioners and management teams all have to agree before a national priority can be waived? What combination of parties would otherwise be acceptable? Clearly, we are into the area of politics and the management of pressure groups and sectional interests. A concomitant is that the accumulation of guidelines passing down to district level must not be such as to pre-empt all resources that can be made available for development. To do otherwise would be to build up intolerable levels of managerial and clinical frustration, particularly where managements are exposed to officially stimulated, vociferous CHCs. While we can expect conventions to emerge, the British preference for pragmatic administration will rightly preclude their prescription in advance.

If planning systems fail to facilitate steady, if slight, local progress, clinical participation will become nominal. Those in personal contact with situations of medical need will find their unremitting explication not only pointless but painful.

Clearly, policy choice and programming within both the DHSS and health authorities must overlap and accommodate the peculiar features of management of health care. Policy choice at different levels may have to be accommodated to the mechanics of programming which could predominate if not managed effectively. The system must not only be conceived but must be portrayed as being much more organic than its predominating mechanical features suggest. The dynamic clinical, technical, social and economic environment of health care means that goals, activities and priorities are never finally and irrevocably determined at a particular point in the planning cycle, though at some point resources must be committed and the outcome awaited if they are not to be wasted. The planning cycle is not an unremitting decision guillotine. It should be, and should be made to be, a framework for information, analysis, discussion, agreement, allocation and commitment. It seems to have been designed and must be preserved to inform commitment decisions, at the time when their effectiveness dictates they should be taken, with full information as to their future effect. Equally, it has also been designed to facilitate emergency and contingency decisions at the time they arise, by providing a model of chosen goals and ongoing commitments, which may have to be adjusted to unforeseen or externally imposed changes.

The Probable Planning System

The history and development of planning in the NHS can be summarised. A universal start has been scheduled for 1976/77 of an interim system which is intended to provide a basis in experience for future development and improvement. This system seems to have been designed to avoid major pitfalls inherent in the present state of health planning techniques and in the organisation and environment of the NHS.

Given these achievements, what form will the overall system take when it first operates?

Our description seeks to look at the combined effect of two related but officially separated systems, that for the annual review and planning of policies within the DHSS and the interim planning system designed for the NHS. This description must be a little speculative: it is based on details of the system as published rather than on practice as it might develop in the first years under the influence of financial stringency.[29 32]

DHSS Annual Policy Planning Review

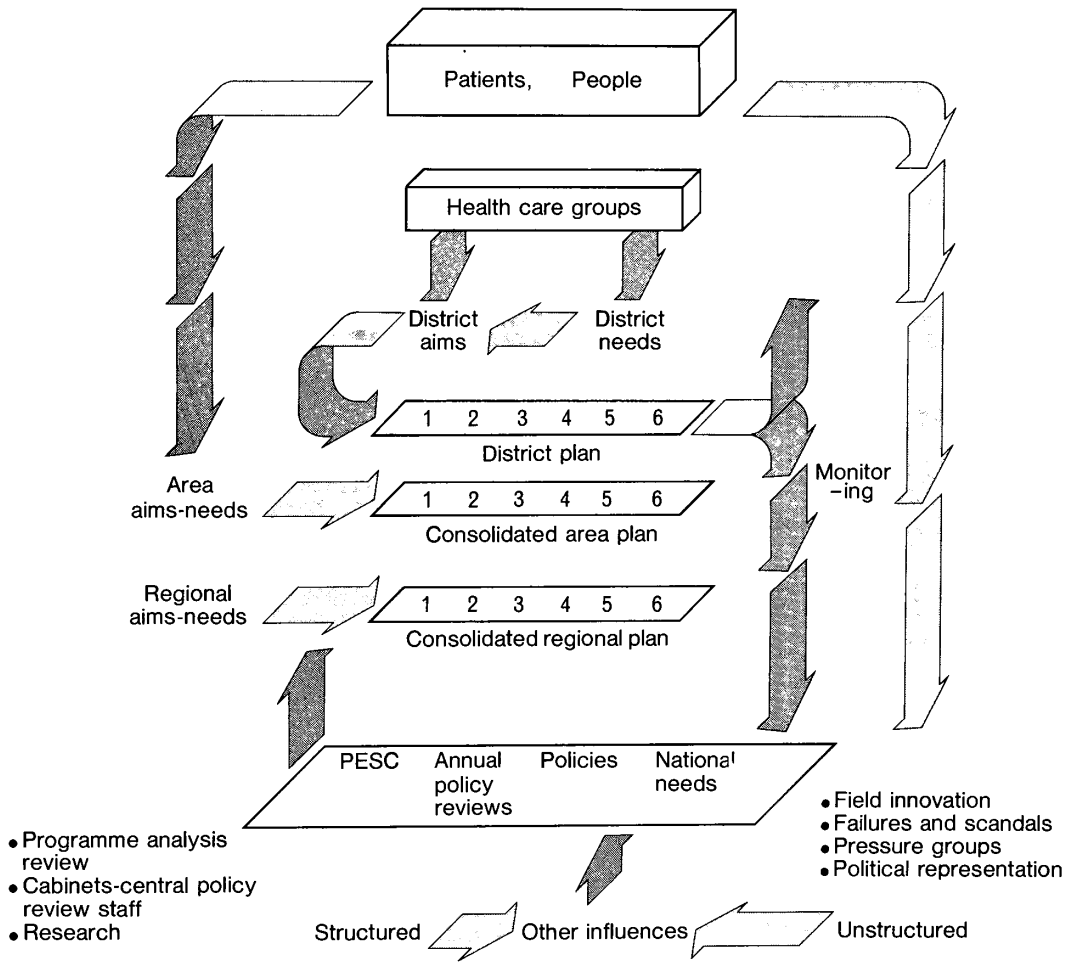
The objectives of NHS reorganisation demand a change in the role of the DHSS. The department has itself been reorganised and should largely abandon a style of management suitable for the selective regulation and limited intervention in the affairs of largely autonomous health authorities. It should now move gradually to a role in which it is providing resources and strategic direction to an integrated and appropriately decentralised NHS. To this end, it has been developing and piloting procedures for annually reviewing national policies and for planning their implementation within the five-year rolling budget now used for regulating public expenditure.[24]

Initially, the processes of determining public policy, while formal, may seem incapable of systematisation. Creativity and opportunism seem to be the keynotes. The range and scope of government policies for health are variable, complex and not particularly comprehensive. Objectives and constraints in respect of some health needs, facilities and resources are specified, while, as a matter of administrative or political expediency, others are not. A health problem long considered insoluble overnight may be transformed by a change in political attitude, public opinion, a clinical 'breakthrough', or scandal. However, to assure attention and resources the serendipity of policy formulation and choice must be synchronised with annual budgets. Consequently, the DHSS annual policy planning system is neatly balanced between creativity and systematic processing.

In devising the system, the problem of classification and of relating one group of decision to another about needs, services

Diagram 2

Combined Field Planning System and DHSS Annual Policy Review



Key to annual planning cycle

1 *Policy guidelines and provisional financial allocation*
2 *Formalise plans*
3 *Consultation*
4 *Approval procedures—resulting in agreed programmes and budgets*
5 *Implementation*
6 *Evaluation and monitoring*

NB PESC Public Expenditure Survey Committee; vehicle for overall expenditure allocations.

Source: This diagram appeared in *Long Range Planning*, December, 1974.
Permission from the editor and publishers, Pergamon Press, is gratefully acknowledged.

and facilities, must have proved a major difficulty. A particular health need or activity may have to be reviewed simultaneously under different headings, without resources being requisitioned a second time, and this in a large scale department organisation.

The Practical Questions
The basis of any system must be a series of discrete analyses which for each policy ask these questions.

What needs does it seek to meet?

Which of the resources deployed could be better utilised?

What future resources can be foreseen?

What demands for resources must be made for continuing or improving the service?

How can all available resources be deployed with greatest effect on needs?

What needs remain?

How may these be met?

Which should be met?

To what extent is further information required to substantiate or change these decisions?

The basic policy statements will serve as an opportunity to check the relevance of a policy and the validity and precision with which needs are understood. On the other hand, through a carefully devised hierarchy of summary statements, a policy scenario for health services can be developed as a basis for a review of needs, options, and resource requirements by top administrators and, finally, by government ministers. The summary of needs and resource requirements is of prime importance in the annual negotiations with the Treasury and in Cabinet to secure an adequate NHS budget. These negotiations, known as PESC (public expenditure survey committee procedures) have been followed for about a decade throughout central government. The annual programming of policies is, however, not solely of budgetary importance. The build up of the scenario provides a way of reviewing the relationship of one policy to another. Gaps and overlaps and the continuing relevance of each policy can be challenged and changed. If the process is informed by an appropriate overview of health needs as seen at the operational and district levels, the need for completely new policies can be signalled.

However, beyond the annual planning of policies, additional periodic analyses of policies are made through the separate but complementary system of policy analysis reviews (PAR) which are obligatory throughout central government. Besides resulting in a presentation and review of options to government ministers, the advantage of PAR lies in the definition of policy areas on a basis intentionally different from that customarily followed, that is, in the annual policy review procedures.[21] The intended effects are to widen the field of needs, policies and options normally reviewed together and to substitute fresh perspectives, definitions and classifications from those that have become customary. It is hoped this will be a creative exercise revealing new approaches and options that may have remained hidden within a conventional framework.

As pointed out above, policy selection and programming cannot be neatly assigned to different organisational levels in the health services. Nevertheless, as can be seen from Diagram 2, which shows the combined DHSS-NHS system, one important outcome of the DHSS annual policy planning review is the issue of priority guidelines and anticipated budgetary allocations. Guidelines and anticipated budgets are the intended departure points for each subordinate management level as it begins its programming and annual review of plans. A framework of anticipated allocations should prevent unrealistic planning, and the guidelines should ensure that subordinate formations are sensitive to central initiatives.

NHS Interim Planning System
The basic unit of integrated planning is the health district. Each district's original consideration and subsequent annual updating of its plan are to be developed from consideration within a framework of some 20 planning statements. These are intended as a framework for the decisions management must take to agree and further appropriate priorities for the development of the range of services it manages. Each statement represents an attempt to standardise the minimum content and a desirable format for some of the information required in typical decisions. Supporting documentation will be appropriate and will vary between care groups. The statements cover

a general demographic and epidemiological profile of the district

each identified group of patients (for example, the elderly)

each clinical and paramedical service (for example, acute hospital surgery, x-ray)

each major service (for example, nursing, ambulances, general support services)

summary of requirements for manpower and capital and revenue finance

all the above included in the statement of the district plan, which will provide a scenario of needs, priorities and developments for the district as a whole for the ensuing three years.

The sequence in which various management and advisory groups contribute to the analysis of information on current needs, and to the selection of priorities within the annual planning-programming cycle, is likely to be crucial. The cycle must begin with outline allocations and the definition of appropriate priority guidelines related to them. These must be initiated at the top with the DHSS and pass down through every level of management, being increasingly refined in the light of local priorities and needs as they progress down to the health care planning teams. At this level the allocations, guidelines and the HCPT's own selected policies for its associated care group and the current needs, will be balanced and fresh priorities determined. It will be important to include, in the first phase of considering guidelines and allocations, the area professional advisory committees and the area joint consultative committee with the matched local authority and

subsequently the CHC and the DMT. This will minimise the risk of having to reverse, instead of to reconcile, priorities newly established by the operational levels. Frequent reversal will prove frustrating and destructive of the required psychological commitment at these levels.

With the selection of priorities by each HCPT, the process of collating, reconciling and approving plans can be undertaken by reversing the flow of information and decision. Again each group must play its part in the process, with the DMT, AHA, and higher authorities in the line of management taking final decisions at their levels over conflicts of priority. It may be necessary initially to reinforce the primacy of the DMT and the AHA, for the network and overlap of representative HCPTS, officer working groups at area level associated with the JCC and the professional advisory committees provide a complex informal web of relationships prone to the pressures of organisational politics.

As the original field trials have been limited to the preparation and testing of procedures at district level, the problems of collating district plans into area and regional plans have not received widespread notice among the professions concerned. District plans represent choices of priority in the development of services, each related to using redeployments of increments in resources, and each related to the other in an integrated district service. Therefore, they cannot be simply summed into an area plan. Similarly, provision and resources cannot be totalled and averaged for most decisions involving the approval of plans at regional level. Nevertheless, because the planning system is seeking the best basis for decision, it tends to emphasise standards, indices and quantitative measurement wherever possible, and it is necessary to warn that the qualitative aspects of a plan are equally important..

The balance between quantitative and qualitative aspects of planning are best illustrated by the main headings of a planning statement for the care of a typical group of patients.

Profile of Services

1 facilities

2 staff

3 local authority and voluntary services

4 preventive and early detection services

5 appropriate statistical indices for the district with regional and national comparisons

Development of Priorities and Plans

1 long and medium term development intentions

2 relevant plans of other organisations

3 comments on statistics and trends

4 problems and opportunities for development

5 action proposed in next three years

6 priority allocated

7 resource requirements (staff, money)

8 benefits expected

9 implications for other services and planning statements

The background information displays are likely to be of a specialised design for each group of patients or aspect of the service, while a standardised approach will be proposed for forms or decision aids used for the development of policies.

Combined System

The combined effect of the DHSS annual policy review and the NHS interim planning system should be to

ensure the DHSS remains sensitive to needs and developments throughout the NHS while the service is responsive to the initiatives of the Secretary of State

focus the main issues of delegated responsibility and accountability into the discussion, approval and monitoring of agreed plans, and away from detailed intervention by higher management levels in ongoing business

provide an adequate vehicle for community and professional participation in planning and for the necessary joint planning of the matching activities of health and local government

improve the allocation of priorities and thus of resources through firm links between plans and budgets.

Caution

Having made such bold claims for the proposed scheme for planning it is necessary to point out both some further possibilities and some pitfalls.

The decision to give priority to a programming system leaves vulnerable the process of selecting policy. Administrators may come to focus on the comfortable mechanics of programming while neglecting techniques for coping with the quintessential selection of policies. Both the guide material issued with the interim system, and the training of the community physicians and the administrators who will manage it, must emphasise the need to supplement with research, intelligence and analysis conventions of advocacy, experience and intuition as bases for selecting policies. Equally, the extent of existing research and intelligence available within community medicine and management must be emphasised to avoid duplicated and wasted effort.

Separation of policy selection, programming and budgeting during financial crises could magnify the importance of the budget to the exclusion of programming, however realistic the financial allocations used during the programming stage. Sudden expenditure cuts, rapid inflation, or excessive stringency preventing balancing of any reasonable budget, may necessitate radical, arbitrary and sudden rearrangements of priority. These, if repeated, destroy the credibility of programming, unless the analysis entailed proves useful at the final stage of making decisions about financial allocations. It may also reinforce a tendency of administrators to rely on crisis management already found appropriate during the

unprecedented days of the early phases of the reorganisation. Again, official advocacy and training can encourage administrators to use programming analyses in any emergency.

The interim system may prove a useful tool in assessing and rearranging priorities under conditions of financial emergency. Moreover, it may by its comprehensive and systematic review, stimulate initiatives leading to greater efficiency as well as effectiveness. Such improvements, releasing only small amounts of resources, can ease any financial crisis and possibly facilitate some development of services. Further, both the success and failure of the planning system in easing financial crisis can stultify development. Failure, however, may lead additionally to the discredit and psychological, if not official, abandonment of the plan. Alienation of the clinicians will probably lead to the divergence of management and clinical plans, with the frustration of management's objectives and a mismatch of resources with clinicians' plans.

The designation and design of planning systems for the NHS are such significant and important steps that potential danger points in the system may be overlooked. For example

> The separation of the DHSS and NHS systems may be necessary, but planning conventions must allow contact between those selecting policies and standards nationally and those selecting them locally; the planning systems and management structure should not hold them apart.
>
> While the logic of allocations founded on standards and statistics has to be broken at the level between region and area, and area and district, to permit the deployment of resources for development in sufficient critical amounts, the grounds for such choices, however intuitive, should be made explicit and public to minimise the apparent success of 'planning by pleading'!

The substitution of comprehensive planning as opposed to budgeting, by tying approved allocations more obviously to specified objectives, will be experienced initially as an extension of central control. The extent of this feeling and any reaction to it require careful management to prevent the alienation of lower management and clinical levels. Continuing economic stringency will probably lead, for some years, to diminished resource margins for development. Indeed, any further development of services may be possible solely through savings and redeployment of resources. Given peripheral independence and, in particular, clinical autonomy, a positive motivation must be preserved in favour of planning in such stringent circumstances. In the interest of securing a positive motivation, a self-denying ordinance may be required in the higher administrative and political levels of health services. If there are virtually no margins for development perhaps national priorities should be equally sparse, leaving lower levels, for an initial two or three years, to gain some experience and confidence in using the planning system to redistribute resources in favour of purely local improvement. 'But you can never persuade anyone by reasonable argument to give up his own skin.'[13]

Notwithstanding various pragmatic reservations, the fact remains that in the adopted arrangements for planning, the NHS is offered carefully conceived management procedures of great potential. It is not being offered an automatic decision maker. Priorities depend on values which inevitably vary between different groups, both in health care organisation and in society. The planning systems provide a framework and annual timetable for the debate. This framework should centre the debate on essentials, while highlighting to an unprecedented extent the special pleadings, not of genuine political difference, but of organisational manipulation. In the last analysis—sadly for those who wish it were otherwise—a planning system is no more omniscient, no more decisive, than those who have the determination to manage it.

APPENDIX

JOB SPECIFICATION FOR AN ADMINISTRATOR IN PLANNING

1 LINE RELATIONSHIPS

Accountable to: district administrator

JOB TITLE: ADMINISTRATOR - HEALTH SERVICE PLANNING AND DEVELOPMENT

administrative assistants: (statistics) (economics) (sociologist or social administrator)

---

2 STAFF RELATIONSHIPS

Monitors	general administrators
Coordinates	members of DMT health care planning teams, all administrators (development of service plans)
Liaison with	district community physician and other members of DMT, nursing officers and teachers
	assistant director - social services (planning and research)
	administrator - community health council

---

3 MAIN PURPOSE

To contribute to the provision of effective health care by coordinating the health service research, planning and development of services and through the provision of planning advice.

---

4 RESPONSIBILITIES AND DUTIES

1 Planning Cycle Coordination

a Ensure that all relevant staff have a clear understanding of the objectives and components of the planning cycle.

b Ensure that policies and appropriate research findings relevant to the planning process are disseminated to and understood by those concerned with planning.

c Monitor the achievement of planning deadlines by relevant staff.

d Consolidate individual plans into a district health plan and submit for approval by the DMT, incorporating the views of the community health councils and the plans of local authority and health care planning teams.

2 Technical Planning Advice

a Maintain contact with the regional and area teams of officers, health services research unit, and others outside the district involved in development of planning policies so as to be able to provide up-to-date advice on planning.

b Assist those involved in the planning cycle, where appropriate, in the completion of plans to ensure consistency with the overall aims and objectives of the district.

c Help managers to formulate individual objectives which are geared towards the provision of health services.

3 Administrative Aspects of Planning

a Continuously review the ability of the administrative organisation to contribute to the delivery of comprehensive health care services.

b Identify suitable topics for research.

c Make recommendations to the district administrator regarding the needs of those involved in the planning process for training in planning techniques.

d Assist the DMT to monitor the implementation of agreed plans.

e Help the district community physician and service planning teams to identify their management information needs and help to devise and develop suitable systems in liaison with management and computer services.

4 Financial Resources

a Keep divisional operating costs and expenditure within allocated budgets (unless otherwise agreed with the district administrator).

b Keep under continuous review the level of resources required, advise the district administrator accordingly and make proposals for additional allocation for consideration by the DMT.

5 Staff Motivation and Communication

a Select and dismiss immediate subordinates, participate in the selection and dismissal of other divisional staff as required, in compliance with current statutory and district policies and make recommendations for promotions where appropriate.

b Induce a high level of morale and motivation throughout the division by personal leadership.

c Communicate district policies down the line so that all levels are fully aware of objectives and priorities and communicate up the line the ideas, thoughts and feelings of subordinate staff as appropriate.

d Ensure that all divisional staff are provided with sufficient training, both on and off the job, to ensure competence in existing jobs and development for future roles.

e Agree personal objectives and priorities of immediate subordinates, devise and agree means of monitoring and regularly assess their performance against those objectives ensuring that the results of the assessment are communicated to them.

---

5 LIMITS OF AUTHORITY

Financial	May authorise unlimited expenditure within budgets. Outside budgets may purchase any single item up to £ .
Staff	May appoint and dismiss immediate subordinates subject only to limitations imposed by current district policies.

REFERENCES

1 ABEL-SMITH, B. Hospital planning in Great Britain. *Hospitals,* vol. 36, no. 9. 1 May, 1962. pp. 30-35.

2 ACTON, J.P. Evaluating public programs to save lives: the case of heart attacks. *RAND,* R-950-RC. 1973.

3 ADLER, M.W *and others.* A randomized controlled trial of early discharge for inguinal hernia and varicose veins: some problems of methodology. *Medical Care,* vol. xii, no. 6. June, 1974. pp. 541-547.

4 AHARONI, Y. Foreign investment decision process. Massachusetts, Harvard Business School, 1966. pp. xvii 362.

5 ARROW, K.J. The welfare economics of medical care *in* COOPER, M.H. *and* CULYER, A.J. Health economics. Harmondsworth, Penguin, 1973. pp. 13-48. (Penguin modern economics readings).

6 BENNETT, A.E. *and* GARRAD, J. Chronic disease and disability in the community: a prevalence study. *British Medical Journal,* vol. 3, no. 5725. 26 September, 1970. pp. 762-764.

7 BISPHAM, K. *and others.* Information for area health planning *in* McLACHLAN, G. *editor.* Challenges for change: essays on the next decade in the National Health Service. London, Oxford University Press for Nuffield Provincial Hospitals Trust, 1971. pp. 235-261.

8 BISPHAM, K. *and others.* Planning for health by K. Bispham, W.W. Holland and J. Stringer. *The Hospital,* vol. 67, no. 3. March, 1971. pp. 82-87

9 BRASS, W. The growth of world population *in* ALLISON, A. *editor.* Population control. Harmondsworth, Penguin, 1970. pp. 131-151.

10 BROWN, D. Training health planners. *Hospital Journal of the American Hospital Association,* vol. 46. 16 March, 1972.

11 CARTWRIGHT, A. Patients and their doctors: a study of general practice. London, Routledge and Kegan Paul, 1967. pp. 295.

12 CHANT, A.D.B. *and others.* Varicose veins: a comparison of surgery and injection/compression sclerotherapy. *The Lancet,* vol. 11, no. 7788. 2 December, 1972. pp. 1188-1191.

13 CHURCHILL, W.S. My early life: a roving commission. London, Odhams, 1947. pp. x 373. plus plates.

14 COLLINS, J. *editor.* Resources in medicine: a collection of papers based on a three-day seminar, 'Uses of resources in medicine', held at St Thomas' Hospital in 1969. London, King Edward's Hospital Fund for London, 1970. pp. 76.

15 CULYER, A.J. *and others.* Social indicators—health by A.J. Culyer, R.J. Lavers and Alan Williams *in* GREAT BRITAIN. CENTRAL STATISTICAL OFFICE. Social Trends, no. 2. 1971. London, H.M. Stationery Office, 1971. pp. 31-42.

16 CULYER, A.J. Is medical care different? *in* COOPER, M.H. *and* CULYER, A.J. *editors.* Health economics. Harmondsworth, Penguin, 1973. pp. 49-74. (Penguin modern economics readings).

17 CULYER, A.J. The economics of social policy. London, Martin Robertson, 1973. pp. xii 268.

18 DALES, L.G. *and others.* Multiphasic checkup evaluation study. *Preventive Medicine,* vol. 2, no. 2. June, 1973. pp. 197-246.

19 DAVIES, B. Social needs and resources in local services: a study of variations in standards of provision of personal social services between local authority areas. London, Michael Joseph, 1968. pp. 341.

20 DONALD, B.L. Planning and health care: the approach in a reorganised NHS. *Long Range Planning,* vol. 7, no. 6. December, 1974. pp. 33-42.

21 EAST, R.J. Improving government expenditure decisions through programme analysis and review. *Long Range Planning,* vol. 6, no. 1. March, 1973. pp. 2-8.

22 FANSHEL, S. *and* BUSH, J.W. A health status index and its application to health service outcomes. *Operations Research,* vol. 18, no. 6. November-December, 1970. pp. 1021-1066.

23 FRANCIS, R.S. *and* SPICER, C.C. Chemotherapy in chronic bronchitis: influence of daily penicillin and tetracycline on exacerbations and their cost. *British Medical Journal,* vol. 1, no. 5169. 30 January, 1960. pp. 297-303.

24 GOLDMAN, S. Sir. The developing system of public expenditure management and control. London, H.M. Stationery Office, 1973. pp. ix 89. (Civil service college studies 2).

25 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY *and* OFFICE OF POPULATION CENSUSES AND SURVEYS. Report on hospital in-patient enquiry for the year—. London, H.M. Stationery Office, annual publication.

26 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY *and* WELSH OFFICE. Reorganisation of the National Health Service and local government in England and Wales. A report from the working party on collaboration between the NHS and local government on its activities from January to July 1973. (Chairman, A.R.W. Bavin). London, H.M. Stationery Office, 1973. pp. 86.

27 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. Development of planning in the reorganised National Health Service. London, DHSS, 1973. pp. 4, plus appendix. (Circular HRC (73) 8).

28 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. Management arrangements for the reorganised National Health Service. London, H.M. Stationery Office, 1972. pp. 174.

29 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. National Health Service planning system. London, DHSS, 1975. pp. 4. (Circular HSC (IS) 126).

30 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. National Health Service reorganisation: consultative document. London, DHSS, 1971. pp. 13.

31 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. NATIONAL HEALTH SERVICE. The future structure of the National Health Service. London, H.M. Stationery Office, 1970. pp. 32.

32 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. Review of health services and resources: planning tasks for 1975/76. London, DHSS, 1975. pp. 14. (Circular DS 85/75).

33 GREAT BRITAIN. DEPARTMENT OF HEALTH AND SOCIAL SECURITY. Third report of the joint working party on the organisation of medical work in hospitals. (Chairman, Sir G. Godber). London, H.M. Stationery Office, 1974. pp. v 39.

34 GREAT BRITAIN. MINISTRY OF HEALTH. NATIONAL HEALTH SERVICE. The administrative structure of the medical and related services in England and Wales. London, H.M. Stationery Office, 1968. pp. 29.

35 GREAT BRITAIN. OFFICE OF POPULATION CENSUSES AND SURVEYS. OPCS monitor: Registrar General's weekly return for England and Wales. London, OPCS, weekly publication.

36 GREAT BRITAIN. OFFICE OF POPULATION CENSUSES AND SURVEYS. SOCIAL SURVEY DIVISION. General household survey: introductory report. London, H.M. Stationery Office, 1973. pp. viii 371, plus appendices.

37 GREAT BRITAIN. OFFICE OF POPULATION CENSUSES AND SURVEYS. SOCIAL SURVEY DIVISION. Handicapped and impaired in Great Britain, by Amelia I. Harris with Elizabeth Cox and Christopher R.W. Smith. Part 1: an enquiry carried out on behalf of the Department of Health and Social Security, the Scottish Home and Health Department, the Welsh Office —in conjunction with other government departments. London, H.M. Stationery Office, 1971. pp. xxviii 330.

38 GREAT BRITAIN. OFFICE OF POPULATION CENSUSES AND SURVEYS. The Registrar General's decennial supplement, England and Wales 1961: Occupational mortality tables. London, H.M. Stationery Office, 1971. pp. 534.

39 GREAT BRITAIN. OFFICE OF POPULATION CENSUSES AND SURVEYS. The Registrar General's statistical review of England and Wales for the year— part 1 (A) tables medical. London, H.M. Stationery Office, annual publication.

40 GREAT BRITAIN. PARLIAMENT. Civil service, volume 1: Report of the committee 1966-1968. (Chairman, Lord Fulton). London, H.M. Stationery Office, 1968. pp. 206. (Cmnd. 3638).

41 GREAT BRITAIN. PARLIAMENT. Report of the committee on social insurance and allied services. (Chairman, Sir W. Beveridge). London, H.M. Stationery Office, 1942. pp. 299. (Cmd. 6404).

42 GREAT BRITAIN. PARLIAMENT. Report of the royal commission on population. (Chairman, Sir H.D. Henderson). London, H.M. Stationery Office, 1949. pp. xii 259. (Cmd. 7695).

43 GROSSMAN, M. The demand for health: a theoretical and empirical investigation. New York, Columbia University Press, 1972. pp. xvii 115. (National Bureau of Economic Research occasional paper 119).

44 HINDELL, K. *and* SIMMS, M. Abortion law reformed. London, Peter Owen, 1971. pp. 269.

45 HOLLAND, W.W. *and* WALLER, J. Population studies in the London borough of Lambeth. *Community Medicine,* vol. 126, no. 11. 10 September, 1971. pp. 153-156.

46 HOLLAND, W.W. The work of St. Thomas's Hospital and Medical School's social medicine and health services research unit *in* McLACHLAN, G. *editor.* Portfolio for health 2: the developing programme of the DHSS in health services research. London, Oxford University Press for Nuffield Provincial Hospitals Trust, 1973. pp. 213-224. (Problems and progress in medical care: eighth series).

47 HOOS, I.R. Systems analysis in public policy: a critique. California, University of California Press, 1972. pp. 259.

48 INSTITUTE OF OPERATIONAL RESEARCH. Planning area health services. London, IOR, 1971. pp. 32.

49 KING EDWARD'S FUND FOR LONDON. Accounting for health: report of a King's Fund working party on the application of economic principles to health service management. London, King's Fund, 1973. pp. 63.

50 KISSICK, W.L. Planning, programming and budgeting in health. *Medical Care*, vol. 5, no. 4. July-August, 1967. pp. 201-220.

51 KODLIN, D. A note on the cost-benefit problem in screening for breast cancer. *Methods of Information in Medicine*, vol. 11, no. 4. October, 1972. pp. 242-243.

52 LABOUR PARTY, THE. Health care: report of a working party: opposition green paper. London, Labour Party, 1973. pp. 45.

53 LAVE, L.B. *and* SESKIN, E.P. Analysis of the association between US mortality and air pollution. *Journal of the American Statistical Association*, vol. 68, no. 342. June, 1973. pp. 284-290.

54 LAVERS, R.J. The implicit valuation of forms of hospital treatment *in* HAUSER, M.M. *editor.* The economics of medical care. London, Allen and Unwin, 1972. pp. 190-205. (University of York studies in economics no. 7).

55 LAYARD, R. *editor.* Cost benefit analysis: selective reading. Harmondsworth, Penguin, 1972. pp. 496.

56 LEES, D.S. Health through choice: an economic study of the British National Health Service. London, Institute of Economic Affairs, 1961. pp. 64.

57 LOGAN, W.P.D. *and* BROOKE, E.M. The survey of sickness 1943 to 1952. London, H.M. Stationery Office, 1957. pp. v 80.

58 LORD, D. Administrators on the brink. *Health and Social Service Journal*, vol. LXXXIII, no. 4336. 26 May, 1973. pp. 1186-1188.

59 McLACHLAN, G. *editor.* Portfolio for health 2: the developing programme of the DHSS in health services research. London, Oxford University Press for Nuffield Provincial Hospitals Trust, 1973. pp. xix 463. (Problems and progress in medical care: eighth series).

60 McKEOWN, T. Medicine in modern society: medical planning based on evaluation of medical achievement. London, Allen and Unwin, 1965. pp. 234.

61 MAXWELL, R. Health care the growing dilemma: needs v. resources in Western Europe, the US and the USSR. London, McKinsey and Company, 1974. pp. 76.

62 MEDAWAR, P.B. The art of the soluble. London, Methuen, 1967. pp. 160.

63 MORRIS, J.N. Tomorrow's community physician. *The Lancet*, vol. II, no. 7625. 18 October, 1969. pp. 811-816.

64 NOYCE, J. *and others.* Regional variations in the allocation of financial resources to the community health services. *The Lancet*, vol. I, no. 7857. 30 March, 1974. pp. 554-557.

65 OFFICE OF HEALTH ECONOMICS. Off sick. London, OHE, 1971. pp. 24.

66 PETTY, W. Sir. Observations upon the Dublin bills of mortality. London, Mark Pardoe, 1683, pp. 14.

67 PIACHAUD, D. *and* WEDDELL, J.M. Cost of treating varicose veins. *The Lancet*, vol. II, no. 7788. 2 December, 1972. pp. 1191-1192.

68 PIACHAUD, D. *and* WEDDELL, J.M. The economics of treating varicose veins. *International Journal of Epidemiology*, vol. I, no. 3. Autumn, 1972. pp. 287-294.

69 POPOV, G.A. Principles of health planning in the USSR. Geneva, World Health Organization, 1971. pp. 172. (World Health Organization public health paper no. 43).

70 PUROLA, T. *and others.* The utilization of the medical services and its relationship to morbidity, health resources and social factors: a survey of the population of Finland prior to the national sickness insurance scheme, by T. Purola, E. Kalimo, K. Sievers and K. Nyman. Helsinki, Research Institute for Social Security, 1968. pp. 243. (Publications of the National Pensions Institute of Finland —series A; 3).

71 Resources: editorial. *Hospital and Health Services Review*, vol. 70, no. 8. August, 1974. pp. 261-263.

72 ROBB, B. Sans everything: a case to answer. London, Nelson, 1967. pp. 148.

73 ROBERTS, J.A. Economic evaluation of health care: a survey. *British Journal of Preventive and Social Medicine*, vol. 28, no. 3. August, 1974. pp. 210-216.

74 ROSSER, R.M. *and* WATTS, V.C. The measurement of hospital output. *International Journal of Epidemiology*, vol. I, no. 4. Winter, 1972.

75 SAMUELSON, P.A. Economics: an introductory analysis. 6th edition. New York, McGraw, 1974. pp. xxii 838.

76 SANSOM, C.D. *and others.* Cervical cytology in the Manchester region: changing patterns of response, by C.D. Sansom, J. Wakefield and R. Yule. *The Medical Officer*, vol. CXXIII, no. 26. 26 June, 1970. pp. 357-359.

77 SHONFIELD, A. *and* SHAW, S. *editors.* Social indicators and social policy. London, Heinemann Education Books for Social Science Research Council, 1972. pp. xii 151.

78 TITMUSS, R.M. Commitment to welfare. London, Allen and Unwin, 1968. pp. 272.

79 TOWNSEND, P. Inequality and the health service. *The Lancet*, vol. I, no. 7868. 15 June, 1974. pp. 1179-1180.

80 TREVELYAN, H. Study to evaluate the effects of multiphasic screening within general practice in Britain: design and method. *Preventive Medicine*, vol. 2, no. 2. June, 1973. pp. 278-294.

81 UNITED STATES, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. Toward a social report. Washington, U.S. Government Printing Office, 1969. pp. xxii 101.

82 WADSWORTH, M.E.J. *and others.* Health and sickness: the choice of treatment. Perception of illness and use of services in an urban community, by M.E.J. Wadsworth, W.J.H. Butterfield and R. Blaney. London, Tavistock, 1971. pp. xii 114.

83 WALSH, H.G. *and* WILLIAMS, A. Current issues in cost-benefit analysis. London, H.M. Stationery Office, 1969.. pp. 19. (Centre for Administrative Studies occasional paper no. 11).

84 WEDDELL, J.M. Rehabilitation after stroke—a medico-social problem *in* BOSTROM, H. *and others, editors.* Rehabilitation after central nervous system trauma: symposium September 25-27, 1973. Stockholm, Nordiska Bokhandelns Forlag, 1974. pp. 71-87. (Skandia International Symposia).

85 WEISBROD, B.A. *and* FEISER, B.J. Hospitalization insurance and hospital utilization. *American Economic Review,* 51. March, 1961.

86 WEST, P.A. Allocation and equity in the public sector: the hospital revenue allocation formula. *Applied Economics,* vol. 5, no. 3. September, 1973. pp. 153-166.

87 WILLIAMS, A. Output budgeting and the contribution of micro-economics to efficiency in government. London, H.M. Stationery Office, 1967. pp. 18. (Centre for Administrative Studies occasional paper no. 4).

88 WORLD HEALTH ORGANIZATION. Approaches to national health planning by H.E. Hilleboe, A. Barkhuus and W.C. Thomas. Geneva, WHO, 1972. pp. 108. (World Health Organization public health papers no. 46).

89 WORLD HEALTH ORGANIZATION. National health planning in developing countries: report of a WHO expert committee. Geneva, WHO, 1967. pp. 40 (World Health Organization technical report series no. 350).

90 WORLD HEALTH ORGANIZATION. Planning and programming for nursing services. Geneva, WHO, 1971. pp. 123. (World Health Organization public health papers no. 44).

91 WORLD HEALTH ORGANIZATION. Statistical indicators for the planning and evaluation of public health programmes: fourteenth report of the WHO expert committee on health statistics. Geneva, WHO, 1971. pp. 40. (World Health Organization technical report series no. 472).

INDEX


000 048572 020000

HEALTH SERVICES PLANNING— a monograph from the department of community medicine, St Thomas' Hospital, London

edited by Karen Dunnell

The six papers in this monograph cover epidemiological and economic issues, the relationship between research and administration, the question of who should be involved in planning, and some of the practical problems of planning adequate and relevant services. The authors, Andrew Creese, Brian Donald, Karen Dunnell, Charles du V Florey, Walter W Holland, Bryan McSwiney, John Wyn Owen and Jean M Weddell, write in the light of their experiences and close association with the work of the community medicine department of St Thomas' since it was set up in 1962.

Written primarily for planning teams in the British National Health Service, the monograph brings together the nature and place of planning and its relationship to research and administration, and clarifies the universal issues faced by health service planners.