

PRIORITIES IN THE SCOTTISH HEALTH SERVICE:

THE PLACE OF THE SHAPE REPORT\*

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Preface

In December 1980 the Scottish Health Service Planning Council published a report defining national priorities for the Scottish Health Service: Scottish Health Authorities: Priorities for the Eighties (SHHD, 1980). This report, commonly known as the SHAPE Report, is important for a number of reasons. First, its "priorities" have the endorsement of the Secretary of State for Scotland. Second, it is the first public view of a new development in the planning of the Scottish Health Service by central government. It represents one stage in a five year cycle. Health boards must now draw up a parallel set of their own priorities and "...should adopt the priority categories in the SHAPE Report unless there are good reasons for departing from them in the light of local circumstances" (SHHD, 1981). Third, the report is important because it reminds us that budgets and resources are scarce and choices must be made. The first run through is bound to give rise to real and imagined shortcomings. Criticisms in this paper are, therefore, not criticisms of the intention of the working party which produced the report. They are intended to contribute towards improving the content of its successors.

\* A fair proportion of this paper is given over to the presentation of information on the Scottish Health Service which is not available to the general public in a readily accessible form. The co-operation of officers of the Scottish Home and Health Department has been crucial to this task. I have benefitted from factual comments on the first draft by the above officers and from general comments by Dr Forwell and the editors, for which grateful acknowledgement is made. Persistent errors must remain my responsibility.

The structure of this paper is as follows. First, an explanation is given of the need to define priorities. Next, attempts by central government leading up to the SHAPE Report are outlined. Third, the content of the report is reviewed critically. One criticism is of the paucity of quantitative guidelines, and the fourth section shows how such guidelines might be defined. Fifth, this framework is then used to review critically such guidelines as have been given some kind of official recognition and to draw some tentative conclusions.

## I. Introduction

An important, if not the most important, principle of the N.H.S. has been that financial considerations on the part of individuals should not limit their access to (the best) medical care. One consequence of this worthwhile objective is that the role of prices in allocating resources in the health services has been reduced. It has not disappeared because prices (including, of course, wages) continue to perform an allocative role in the supply of health service resources: for example, of doctors, nurses, drugs and dressings.

The advantage of prices, or more particularly of the market economy, is that prices provide information to those supplying and demanding goods and services. Quite possibly the quantity of a particular product, say shirts, that the suppliers are willing to provide at the going price is less than the quantity demanded. In that case we say a shortage exists. If the price mechanism operates properly the immediate response is for the price of shirts to rise, and the excess demand to be choked off. Subsequently the higher price would encourage suppliers to produce more shirts, and those demanding shirts to make those they have last longer, and shift their priorities away from shirts to other goods and services. More shirts would eventually be produced and, with the decline in price, the increased production would be taken up by consumers. By this stage the claims of a shortage (or surplus) would have disappeared.

The absence of persistent shortages of shirts, or of other particular goods and services, does not imply that the public demand is satiated. Rather, it is the consequence of limited resources. Devoting more resources to shirts means less for other goods and services. As the supply of resources increases one may expect more shirts and other goods to be demanded and supplied.

The acceptability of the price mechanism depends not only on the adjustment process described above, but also on two assumptions. One, that the price of the product reflects its value to society (as well as to the purchaser) from its consumption; and two, that the price of the product reflects the cost to society (as well as to the supplier) of its production. Often one or both these assumptions are not satisfied, and some form of public intervention, such as regulation, would secure a more efficient allocation of resources. But even if these assumptions were satisfied, the implied distribution of particular products between persons might be unacceptable. There can be little doubt that it is this last consideration which was responsible for reducing the role of prices in allocating health services in 1948.

Reducing the role of prices has given doctors, primarily, more control in determining who receives such resources as are available. But, with the exception of drugs, the supply of resources has been outwith their control. This is most obviously so for doctors working in hospitals, since employment of staff in hospitals is controlled by the health boards. It is also true, though to a lesser extent, for GPs. While they employ their own ancillary staff and order drugs and dressings, they do not control the supply of hospital care and community nurses. The control of health services was, instead, largely shared between local and central government up to 1974, with some delegation to the regional hospital boards and to executive councils for the family practitioners services. Since 1974, control has been concentrated at central government level, although some delegation to health boards still continues. Such information as is available suggests that central government in Scotland has been slow in defining priorities, as the following historical background to the SHAPE Report indicates.

## II Historical Background to the SHAPE Report

In the previous section it was accepted that society might wish to have more, say, shirts. However, because resources are limited, the present provision of shirts may be acceptable because this is preferable to having fewer of other goods and services. Sensible discussion of priorities depends on the recognition that resources and/or budgets are limited, and that one cannot have more of everything.

The first public statement in Scotland in which the implications of limited resources were recognised and priorities consequently defined was the Hospital Plan for Scotland, published in 1962 (DOHS, 1962). This document was produced by the Department of Health for Scotland and set out priorities within the major part of its budget over which it had control. It was and still is accepted that the family practitioner services, which are also financed by central government, should be outwith its detailed control.

The original Hospital Plan listed a set of proposed capital schemes up to the financial year 1970-71. However, these capital schemes have had, as was expected, profound implications for recurrent expenditure as well. The proposals outlined were highly specific. The type of care (e.g. acute or geriatric) was specified as well as its scale (e.g. the number of beds), location (e.g. at Ayr) and priority (Bands A, B, and C). Not only were the proposals highly specific but, in addition, they were based on national quantitative guidelines by type of care.

The content of the Hospital Plan was reviewed five times before the reorganization of the N.H.S. in 1974. After reorganization, hospital building projects, along with other major capital projects, were included in a Major Capital Programme covering the whole of the health service. The last review of the Major Capital Programme in 1977 was consciously designed to fall in with the priorities of The Way Ahead, published the previous year (SHHD, 1976), and the priorities in the SHAPE Report will be taken into account in the current review of the Major Capital Programme.

The next venture by central government in defining priorities on a comprehensive basis was the Scottish Home and Health Department memorandum The Way Ahead published in 1976 and covering the period up to 1979-80 (SHHD, 1976). This document was a response to the anticipated restrictions on public expenditure. By this time the community health services had come within the control of central government, and they were within the list of priorities. The Way Ahead suggested indeed that community and primary care should be developed to provide an alternative to hospital care. Prevention was also explicitly encouraged as a means to better health. But more significant, perhaps, was the identification and promotion of client groups: the elderly, the mentally handicapped, the mentally ill, the physically handicapped

and vulnerable families.

No quantitative guidelines were offered in The Way Ahead beyond those that could already be found in the Hospital Plan. This was partly because The Way Ahead was hastily produced in the face of a financial crisis for the N.H.S. This was also because its concern was for short term priorities. Priorities over the longer term were considered to be more appropriately the remit of the Royal Commission on the National Health Service and of the Scottish Health Service Planning Council's Working Party on Health Priorities. It was this working party which produced the SHAPE Report.

### III The SHAPE Report

The Scottish Health Service Planning Council was established at the time of health service reorganisation in 1974. Its members include senior administrative and professional officers of SHHD and representatives of all the health boards and medical schools in Scotland. In July 1975 it set up a working party to "...review health priorities in Scotland and to recommend any changes required to make the most effective use of resources" (SHHD, 1980). In March 1978 the Planning Council agreed to a request by the SHHD, that the working party "...produce draft national guidelines for the Scottish Health Service for the 80s with emphasis on the period 1980-86, to replace those contained in the memorandum...The Way Ahead..." (ibid). In May 1980 the working party's report was sent to the Secretary of State for Scotland by the Planning Council. The report was published in December 1980.

In his foreword the Secretary of State publicly endorsed the recommendations in paras. VI.20 and VI.21. They are as follows:-  
"VI.20 We (the working party) set out below a list of programmes by priority category, including prevention and multiple deprivation... Programmes within a given category are not set out in any specific order but, in general, health boards should give priority to Category A programmes over other categories and should plan for the implementation of priorities in Category C programmes according to their ability to make savings in the fields covered by these programmes. The assumption would be that revenue expenditure on Category A programmes would grow faster than all health service revenue expenditure; Category B programmes would grow but at a lower rate than Category A programmes; and expenditure on Category C programmes

would remain almost static in real terms or actually decline (and expenditure on any developments within a Category C programme must be met from savings).

"VI.21 It will be noted that in allocating programmes to priority categories, as set out below, we have included in Category A prevention, services for the multiply deprived and community nursing services. Prevention and multiple deprivation are different in kind from other programmes, since they are concerned with the way in which the health services as a whole are provided, and therefore help to determine priorities within all individual client groups and service programmes, including those placed in Categories B and C. On the other hand, objectives for the community nursing services will be affected by the objectives adopted for client group programmes. In addition, as community nurses play an important role in prevention and services for the multiply deprived, the high priority given to them in itself implies a high priority for community nursing services. Finally, we support 'The Way Ahead' in giving priority to continuing promotion of health care in the community; this will also increase the need for community nurses.

" Category A: Prevention  
Services for the multiply deprived  
Community nursing services  
Care of the elderly  
Elderly with mental disability  
Mentally ill  
Mentally handicapped  
Physically handicapped

" Category B: Primary dental services (general dental services<sup>1</sup>  
and community dental services)  
Maternity services  
General medical services<sup>1</sup>  
General ophthalmic services<sup>1</sup>

"Category C: Child health  
Acute hospital services  
General pharmaceutical services<sup>1</sup>"

<sup>1</sup>These family practitioner services are, of course, different from the others in that expenditure on them is generally not subject to control by health boards.

Paras. VI.20 and VI.21 reproduced by kind permission of Her Majesty's Stationery Office.

In its attempt to define priorities, the working party received advice from a variety of sources. The National Medical as well as well as the National Nursing and Midwifery Consultative Committees at the

request of the working party produced reports and gave advice on the acute hospital services, including paediatric and obstetric services. Specific reports covered perinatal care, maternal serum alpha-feto-protein screening and ultrasonography. The National Pharmaceutical Consultative Committee had set up a working party to review general practice pharmacy, and the Working Party on Health Priorities used their report. This report, unlike those from the two other Consultative Committees, has been published (NPhCC, 1980).

The Planning Council had already established programme planning groups for a variety of client groups. These included Child Health, the Elderly, and Mental Disorder. All three programme planning groups had produced, or were in the process of producing reports. None had been written at the request of the working party, but they had its terms of reference in mind. The reports on child health, the elderly and mental handicap (produced by a subcommittee of the programme planning group on Mental Disorder) have now been published (SHHD, SED, 1979 a-b and 1980 a-d). Two further subcommittees concerned with child and adolescent psychiatry and with adult mental illness have yet to complete their work, but discussed preliminary recommendations with the working party. Finally, the Planning Council also set up programme planning groups for two clinical fields - cardiac surgery and the treatment of cancer. Their reports (both unpublished) were available to the working party.

In addition, the Scottish Health Service Planning Unit within SHHD produced a two volume review of the Scottish Health Service (SHSPU, 1979). This is an impressive outline of developments, largely between 1967 and 1977. The review has not been published by H.M.S.O., but was sent in litho form to health services interests and parliamentary libraries.

Finally, use was made of research on setting health priorities by the Scottish Institute for Operational Research. At that time the Institute was receiving funds from the SHHD to study health planning. The work presented to the working party has since been re-written and published (Lind and Wiseman, 1978). All four above mentioned sources and others are given ample reference in the SHAPE Report. The use made of them by the working party is now discussed.

It is best to begin close to the end of the report (chapter VI) because this is where the methodology for defining priorities is de-

scribed, and described in fairly explicit terms. The working party state that they used a "...pragmatic approach, in which value judgements would necessarily play a particularly large role". The recommendations of the Scottish Institute for Operational Research, they felt, left them no other alternative. The working party regarded their adopted methodology for setting priorities as "...best in present circumstances".

The working party began its deliberations by accepting the priorities identified in The Way Ahead as a basis for discussion. They then considered for each service or client group whether, on the basis of national assessment, its relative priority should be changed in the light of such factors as expected demographic changes and discrepancies between the current level of services and what seemed the desirable level.

The working party, by adopting this methodology, did not solve the problem of setting priorities: it was simply shifted. The question as to what levels were desirable remained. To answer this question the working party used the evidence presented by the various National Consultative Committees and the programme planning groups, and their own (value) judgements. A major part of the report is given over to a selective presentation of the above, the Planning Unit's review, and other sources. Briefly its content is as follows.

The report begins by rehearsing the familiar difficulties of measuring need. Population projections into 1990/91 are also presented. Data on the current supply and use, in physical and financial terms, of services both by provider (such as doctors and hospitals) and by client group (such as the elderly) are presented. Similar information over the period from about 1967 to about 1977, with projections into the 1980s is also presented. Changes over time are variously explained, but it is rarely clear what inference can be drawn about the desirable levels for setting priorities. Despite the able presentation of the evidence by the working party, those interested in learning the contents of the reports and review would be well advised to read them in their original form.

Even though a very wide range of evidence was sought, digested and presented, the working party's conclusions add little to the list of priorities in The Way Ahead. The list is amplified. For example, reference is made to primary dental and general medical and

ophthalmic services, whereas in The Way Ahead they come under the collective umbrella of primary care. A further contribution was the willingness of the working party to rank their list of priorities, allocating them to one of three categories, A, B and C. But as an examination of the list (reproduced above) shows, the working party's contribution was more apparent than real. Category A contains all the client groups, plus prevention, that had been previously mentioned for priority in The Way Ahead and category B lists services that were given precedence in The Way Ahead. The distinctive contribution by the working party, in its ordering of priorities, was the special emphasis it gave to community nursing, and the elevation of maternity services following a revision of the demographic projections for Scotland. In these circumstances it would have been surprising had the Secretary of State for Scotland not endorsed the working party's conclusions.

Whilst the working party reached very similar conclusions to those found in The Way Ahead, it had every opportunity to differ. In fact there are any number of reasons why they might have differed. The four years separating the publication of these two documents were sufficiently long to give rise to some marked changes in the demographic projections. And this accounts for the one major departure in the ordering of priorities: namely, the changed emphasis given to the maternity services. The working party also had much more information to order priorities than was available when The Way Ahead was written. An indication of the breadth and depth of this information has been given above. Yet, to my mind at least, it had no impact on priorities. The new information was used to amplify the recommendations in The Way Ahead; not to amend them. Finally, the authors of The Way Ahead and the working party could have differed in their value judgements. The fact that the working party took The Way Ahead as a basis for discussion suggests a reluctance to differ in this respect. Such information as we have on how their judgements were formed is limited to less than 5 pages (pp 68-72) in the text of more than 100. This omission would have mattered less had reasons been advanced for the very similar value judgements in The Way Ahead. But they were not. It is for this reason that I feel the SHAPE Report will confirm people's prejudices rather than change their minds.

A further criticism is the general reluctance of the working

party to state its recommendations in quantitative terms. The working party gave no explanation for this reluctance. Lind and Wiseman (1977) in their review identified several reasons why norms might not be stated, but invariably the reasons given relate to practical shortcomings. They produced no evidence to vitiate the principle of norms. The shortcomings they identified were as follows:-

- "standards (i.e. norms) are often set on a flimsy basis;
- "standards imply that agreement has been reached on the most appropriate mix of services for a given population;
- "standards focus attention on provision rather than achievement;
- "the social, economic, geographical and cultural differences between areas ensure that uniform planning would result in the misuse of resources;
- "standards neglect the interdependence between services because they are set separately for closely related services such as in in-patient and out-patient provision"

Despite these practical shortcomings, decisions on, say, the number of acute beds have to be made. The only unambiguous quantitative recommendations the Working Party on Health Priorities gave, which had not already received official approval, were for geriatric care. They were the amendment of the ratio of 15 beds per 1,000 population aged 65 and over, to 40 beds per 1,000 population aged 75 and over; and the introduction of a new quantitative guideline of 2 day hospital places per 1,000 population aged 65 and over. Both guidelines originated from the Programme Planning Group for Care of the Elderly (SHID, SED, 1980a). Quantitative guidelines had been recommended by other Programme Planning Groups, and occasionally were mentioned by the working party as well. But in no instance did the working party actually recommend them.

Yet the working party made frequent quantitative recommendations, such as:

- "Health education measures aimed at achieving an adequate uptake of these services should be increased" and
- "...out-patient facilities to be extended to peripheral hospitals and health centres, and that there should be increased provision of day beds."

Quantitative guidelines are also implicit in some of their other statements. One such is: "The general medical services are on the whole

reasonably adequate...." Does this mean that, subject to the various qualifications advanced at one point in their report, the working party regard the average list size of 1,902 patients per GP as "reasonably adequate"? Quantitative guidelines must also have been implicit in the working party's selection of "objectives" corresponding to different rates of growth in the health services budget up to 1986-87, given in Chapter VII. My preference is that these and other implicit guidelines be made explicit; otherwise inconsistencies are likely to arise, as has been suggested by Card and Mooney (1977) in the context of valuing life. As it happens, a wide variety of quantitative guidelines either have been developed within the Scottish Health Service, or apply to it. These will be shortly indicated and the reasoning behind them, when given, outlined. But before doing so I indicate the economist's perspective of what determines the desirable level.

#### IV Some Economic Principles Determining Desirable Levels of Provision\*

It was pointed out in the introduction that the acceptance of the market economy as a means to determine the efficient allocation of resources rests on two assumptions. They are that, in the absence of shortages and surpluses, the market price of any particular product reflects both the value to society from its consumption and the cost to society from its production. The value and cost often depend on the level of provision, and for that reason it is possible to infer what level is desirable. This result is not conditional on whether the resultant distribution between individuals is acceptable. In this section factors influencing the value and cost of health services are identified. The section concludes with a review of their change over time.

##### (a) The value of health services

There may not be agreement on how to weigh or measure the value

\*This section gives a brief introduction to an economic perspective on priorities in the health services. Culyer (1976) gives a wide ranging and stimulating account, which the interested reader will find well worthwhile following up. The standard solution is cost-benefit analysis, and recently a couple of useful texts applying the methodology have been published. Williams and Anderson (1975) have applied the methodology to the social services in general: Drummond (1980) has applied it to the health services.

of additional units of any given product, but most would accept that it tends to be smaller the more is demanded. For example, the first shirt bought is worth more than the second, which in turn is worth more than the third, and so on. This common observation applies to a whole range of health services too. For example, during an episode of acute illness, the first day in hospital would tend to be worth more to the patient than the second, and so on. Again, Down's Syndrome (mongolism) is known to be more common among older expectant mothers. If pre-natal screening were ordered by maternal age, then the proportion of positive results from additional tests would fall with the number already given. The diminishing returns from health services are thus basically observations of a medical kind.

The difficulty with using this information to determine priorities is that acute hospital care and pre-natal screening are quite disparate activities. How can one make them commensurate? The market mechanism is prohibited, but this prohibition is not peculiar to the N.H.S. The Roskill Commission on The Third London Airport had the same problem in valuing noise pollution. Others have faced it in valuing free recreational facilities such as parks. Economists therefore have acquired some knowledge of this problem. The best accepted practice is to solve it by inferring willingness to pay. Thus the value of noise pollution was measured in terms of its effect on house prices. And the value of recreational facilities by the willingness of people to travel to use them. In the health services similar ingenuity has also been exercised.

One method with a long history is to look at the productivity benefits from health services. For example, the treatment of hernias allows some to return to work, or to increase their choice of occupation should they be working already. This method has proved unattractive to many because it has unfavourable inferences for those, such as the elderly, who have no employment prospects. The more serious criticism is that it may give a false indication of the community's willingness to pay, as is quite evident from the care and attention lavished on some children with serious disability.

An alternative, and to my mind more satisfactory method of inferring willingness to pay, is to study human behaviour. Trading in markets is, after all, part and parcel of such behaviour. Considerable progress has recently been made using human behaviour to infer the

value of human life. Needleman (1980) related the payment of danger money in the construction industry in Britain to fatalities recorded. Using 1968 data he concluded that "...the upper limit of the average value of all construction workers per expected life lost was about £22,000."

Similar procedures could be developed for a whole range of health services. For example, it is well known that distance influences the use of health services such as diagnostic radiography (Mair et al, 1974). Variations of this kind have been used to infer the value of recreational facilities. The danger with evaluation by inference is that, applied uncritically, it may disregard whose willingness to pay is being measured. For example behavioural patterns of individuals probably vary considerably with their income and wealth. In addition, although it is the public's behaviour that is studied the major influence may be the doctors'. The choice may matter, and it has to be made in setting priorities.

#### (b) The cost of health services

There is much more agreement about how to measure costs. The variation of costs with output, however, is less predictable. Generally, activities involve certain overhead costs which must be borne however little output is produced. Thus hospitals have to pay rates and employ a certain range and number of staff before the first patient may be admitted. Thereafter the cost of admitting additional patients may remain constant. On the other hand, the cost may fall as the larger number of patients allows more specialisation of skills and equipment, for example in the pathology department, kitchens and laundry through mechanisation and automation. Eventually the cost of admitting additional patients may rise as all the advantages for specialisation are overtaken by the disadvantages for management. How the costs of additional units of output vary with the level of input is therefore largely an empirical question.

The relationship of costs of services to their output depends on the cost of the resources employed and the ways in which they can be used to provide the services. Usually there is more than one way to provide a particular service. For example, in hospitals nurses may provide more or less help to the medical staff, and ancillary staff may play a variety of roles in the ward. In practice, therefore, the mix of staff, equipment and facilities available influences the allo-

cation of their roles. Ideally that mix in turn should reflect the relative cost of these resources, so that output is produced at least cost.

The hazards of measuring the value of different services have been mentioned. Measuring their costs is not without problems either. The chief problem is that the prices of the resources used does not necessarily represent their economic, or opportunity cost. For example, facilities already owned by the N.H.S., and for which no charges are now made, are not for that reason free: they could be used for other purposes. Equally, some "resources" may have very limited alternative uses, such as staff at hospitals in isolated areas.

(c) Changes over time

It is well recognised that demographic changes, such as in the birth rate or number of elderly, will influence the demand for health services. What is less subject to evaluation are changes in the risk of ill health among identifiable groups, such as the elderly. The main problem is the lack of an accurate and useful epidemiological information base. The SHAPE Report refers to this deficiency.

The weight given to the value of health services is likely to change too. It was noted above that an individual's willingness to pay might be influenced by his income and wealth. Richer individuals would therefore tend to demand more services, irrespective of their medical needs. This phenomenon should be reflected in society too. As societies became wealthier their perceptions of health need and their expectations about its satisfaction would tend to increase. There is ample evidence from international comparisons to support this prediction. Not only do richer countries spend more on health services, but the proportion of their expenditure on health services is higher (OECD, 1977).

Changes in the cost of health services come from two sources. The problem of inflation is discounted since this would affect the valuation of benefits to an equal extent. Costs may change as the range of ways to provide particular health services widens. It is possible to identify several examples. Fluoridation, by reducing dental care reduces the need for fillings and extractions for children. Automation in pathology laboratories reduces the need for staff.

Costs will also change if the prices of particular resources change. For example, increasing admissions into medical schools is

likely to increase the supply of doctors, and eventually reduce their earnings relative to other groups. Migration would only modify the extent of that reduction. This change in relative prices of resources should cause a shift in their respective employment, and influence costs still further.

The philosophy of the approach in this section is well illustrated by the following quotation. It refers to nurses, but it could apply equally well to other health service resources.

"Ultimately the need for nurses derives from the health needs of the population which in turn are determined by the size/age structure of the population, morbidity rates and public expectations about the level of health care. Actual demand for nursing manpower is determined, however, by how services are developed to meet health care needs, the manner in which nurses are used to operate such services, and perhaps most importantly, the money available to employ them" (SHSPU, 1979).

V Quantitative norms in the Scottish Health Service

The emphasis in this section is on norms, usually expressed in terms of provision per capita for some defined age group. These norms and population projections could be used to plan the provision of health services. Every effort has been made, in the comparatively short time available, to obtain an exhaustive list of the quantitative norms which have some form of official recognition, and the reasoning behind them. Those identified have been for hospital beds, doctors, dentists, nurses and administration. The norms were further defined by type of care and/or client group for beds and doctors. In several cases these norms have been recommended by advisory bodies and not been adopted by central government. I indicate the official status of the norms when known. I also indicate when the norms were recommended. HMSO publications have been my chief source of information. But sometimes norms have been first disclosed or subsequently amended not through a published report but through a parliamentary question or a circular and may thus have been overlooked. The five types of resources are now discussed in turn.

(a) Beds

The first quantitative guidelines were those contained in the Hospital Plan for Scotland, first published in 1962. Six types of care and client groups were identified: acute provision for the general population, maternity services, the elderly, the mentally

handicapped, infectious diseases and tuberculosis. The guidelines as indicated in Table 1. The mentally ill were also identified but the authors of the Plan considered it premature to suggest quantitative guidelines. Quantitative guidelines for the mentally ill were first suggested by the Programme Planning group on Mental Disorder in 1979 (SHHD, SED, 1979a). As was noted in section III the content of the Hospital Plan was reviewed five times up to its incorporation into the Major Capital Programme in 1974, once following the publication of The Way Ahead, and currently following the SHAPE Report.

TABLE 1  
Quantitative Norms from the Hospital Plan  
for Scotland: 1962

Service/client group	Norm
Acute: Normally	2.5 beds per 1,000 population
with teaching facilities and reference Centres	3.0 beds per 1,000 population
Maternity	70-75% of births in hospital 10 days for average length of stay 8 ante-natal beds per 1,000 births
Elderly	15 beds per 1,000 aged 65 and over
Mental Handicap	1.5-1.6 beds per 1,000 population
Infectious diseases (excluding T.B.)	0.3 beds per 1,000 population.
T.B.	0.2 → 0.1 beds per 1,000 population

Source: DOHS (1962). Paragraphs 53-57

The original version of the Hospital Plan was not written in a complete vacuum. For most services reliance was almost certainly based on utilisation rates experienced. However in respect of the maternity services and the mentally handicapped some guidance, based on a rather more rigorous approach, was available. In both cases reports had been prepared by sub-committees of the Standing Medical Advisory Committee.

The sub-committee set up for the maternity services was asked "... to consider... the range of provision which should be available in the National Health Service in the interests of the mother and child during pregnancy, confinement and lying in...." (SHSC, 1959). Its views on provision were naturally coloured by the professional

approach of its members, and reflected medical need. No suggestion was made that the national level of 70% of births was too low, and hospital provision for 70-75% of births was recommended. The chief criticism was of the regional disparities. It was noted that only 65% of confinements in the West of Scotland were in hospital, and that the proportion in Glasgow was 57.6%. The sub-committee's recommendations were adopted without amendment into the Hospital Plan.

The other sub-committee was set up "... to enquire into and report on the mental health service in Scotland which affected mental deficiency...." (SHSC, 1957). The sub-committee drew attention to the work of the Woods Committee on Mental deficiency (BOE, BOC, 1929) which had commissioned and published a study of the prevalence of mental handicap in six areas of England during the period 1925 and 1927. Referring to the Woods Committee's Report, the sub-committee suggested that "...some 2 or 3 per 1,000 were likely to require institutional care under the Mental Deficiency Acts" (SHSC, 1957). The Hospital Plan's recommendation of bed provision was set at 1.5 to 1.6 per 1,000 population. No explanation was offered for setting the level too low to meet all need as suggested by the Woods Committee.

These were the only two client groups for whom norms clearly had an epidemiological basis. The absence of an epidemiological basis for the four other categories was recognised by the authors of the original report (DOHS, 1962). Thus when they recommended that provision should be reduced for acute hospital services from the current level of 3.8 per 1,000 population it was not because they thought that admissions were too frequent. Rather they anticipated that length of stay would fall as hospitals were modernised and had more staff, as indeed has occurred. The same number of admissions could be achieved with a smaller bed complement.

The authors of the original Hospital Plan also recognised the existence of alternative sources of care, and the divided responsibility that followed from it, for several of the client groups. They were quite aware of the contributions by the family practitioner services and local health authorities to meeting the demands that would otherwise be made on hospitals at their accident and emergency departments, for maternity care and mental health, and by the elderly.

There have been changes to, and alternative recommendations for, some of the norms that appeared in the original Hospital Plan. Three

known to me relate to acute bed provision at district general hospitals, the elderly and the mentally handicapped. They are discussed in turn.

The change from the acute bed formula of 2.5 beds per 1,000 in the Hospital Plan first appeared about 1970, and was introduced within the SHHD with a view to reflecting local needs better. The change was made explicit in 1974 in a departmental memorandum (SHHD, 1974). Recommended bed provision is no longer based only on the total catchment population, but adjusted in various ways for actual discharge rates and bed usage for Scotland as a whole. The new formula has been used to provide a starting figure from which negotiations with health boards over bed provision could take place.

Recent recommendations are for bed provision of about 2.5 beds per 1,000 population. The coincidence with the Hospital Plan's norm is, however, fortuitous. In the early 1970s the recommendations varied between 2.0 and 2.3 beds per 1,000 population. A difference might be expected if only because the definitions of specialities to be included are different. The authors of the district general hospital bed formula are clear that they assume that "...the current level of use is a fair representation of the requirements of the population.." (SHHD 1974). This assumption is, of course, highly debatable. It is well established that admissions per capita increase with bed provision. Current bed use therefore reflects current bed provision. In other words, there is no explicit epidemiological basis to the derived estimates; rather they are an amalgam of epidemiological and supply dimensions.

The only other alternative norms known to me relate to the elderly and mentally handicapped, and they have a less official status than the amendment to the acute bed norm just noted. These and a number of other quantitative norms are shown in Table 2. The changes for the elderly were recommended by the Programme Planning Group for the Elderly (SHHD, SED, 1980a). Their chief recommendations have already been noted, as they were adopted by the Working Party on Health Priorities. To repeat, their concern was less with total provision than with ensuring that regional distribution should reflect the greater need for institutional care by those aged 75 and over as compared with those aged 65-74. The Programme Planning Group also recognised that, within a limited range, hospital in-patient and local

authority residential care could be substitutable. They accordingly set a norm combining the two types of care. The Working Party on Health Priorities had, of course, to disregard this recommendation as their terms of reference were restricted to the N.H.S. Nevertheless, the working party was quite clear about the need for co-operation between health boards and local authorities (SHHD, 1980).

TABLE 2

List of select quantitative norms

<u>Service/client Group</u>	<u>Source</u>	<u>Norm</u>
<u>Hospital care</u>		
Geriatric	1	40 beds per 1,000 aged 75 and over
	1	2 day hospital places per 1,000 aged 65 and over
Mental handicap	2	1.2 beds per 1,000 population
Elderly with mental disorder	3	10 beds per 1,000 aged 65 and over 2.5 → 3.0 day hospital places per 1,000 aged 65 and over
<u>Primary care</u>		
GPs	4	Max. average list size of 2,500 patients per GP
Dentists	5	20,000 on the Dentists' Register
<u>Community care</u>		
Health visitors	6	1 H.V. to from 4,600 to 3,000 pop.
District nurses	6	1 D.N. to from 4,000 to 2,500 pop.
<u>Administration</u>		
Health board management and administration	7	5.7% of revenue expenditure.
<u>Mental Illness</u>		
Psychiatrists	8	1½ child and adolescent psychiatrists per 200,000 population

Note: Data are not presented for bed provision at district general hospitals or for hospital nursing since their calculation is far more complex than those listed in the table. See SHHD (1974) and WSDNER (1967 and 1969), respectively for more details.

Sources: 1. SHHD, 1980, p.77  
2. SHHD, SED, 1979a, para.2.18  
3. SHHD, SED 1979b, paras. 3.47 and 3.51  
4. Personal communications from SHHD

5. MOH, DOHS, 1956b, para.84
6. SHHD, 1972, para. 3
7. SHHD, 1979, annex 2
8. SHHD, 1980, para. II.62

The programme planning group also recommended 2 day hospital places per 1,000 aged 65 and over. But no explanation for this choice was given. The SHHD has since accepted the bed norm of 40 per 1,000 aged 75 and over and adopted a norm of 2 to 3 day hospital places per 1,000 aged 65 and over.

The norm for mental handicap was first revised in 1972 (SHHD, SE 1972). New evidence on the prevalence of mental handicap was presented but it hardly suggested that the Woods Committee's conclusions should be revised. However, the 1972 review did not accept that the Hospital Plan's recommendation of 1.5 to 1.6 places per 1,000 population should remain unchanged. Instead it was recommended that the norm for places should reflect the provision (in hospitals for the mentally ill as well as for the mentally handicapped) actually available i.e. 1.63 places per 1,000 population. The same source noted the results of a study of placement at two hospitals in Scotland for the mentally handicapped. The study found that a significant but highly variable proportion did not require the facilities at these hospitals (SHSC, 1970b). The 1972 review arbitrarily recommended that about 25% of new adult patients "...could be in hostel or other accommodation provided by local authorities if it were available". (SHHD, SED, 1972). This implied that the norm should fall eventually to 1.2 hospital beds per 1,000 population.

The Programme Planning Group for Mental Disorder also reviewed the norms for the mentally handicapped (SHHD, SED, 1979a). It used the same principles as the 1972 review to judge whether the bed norm needed changing. They found the prevalence of mental handicap to be higher for adults, and argued for more institutional provision of all kinds, i.e. from 1.63 to 1.80 places per 1,000 population. However the group gave more emphasis to local authority care, and recommended that the hospital bed guideline remain at 1.2 per 1,000 population. The SHHD had not decided at the time of writing whether to accept this norm.

The remaining bed guideline was one recommended by another sub-committee of the Programme Planning Group for Mental Disorder. This

group had been set up to study the needs of the elderly mentally ill (SHHD, SED, 1979b). Up to this stage no guidelines had been recommended for this client group. Those recommended were 10 hospital beds and 2.5, increasing to 3.0, day hospital places per 1,000 population aged 65 and over. The bed provision norm was based on estimates of the numbers of elderly with dementia in hospitals for the mentally ill, general hospitals and local authority residential homes, plus estimates of unmet need in the community. The programme planning group offered no clear basis for their recommendation for day hospital place. At the time of writing the SHHD had not decided whether to accept it.

#### (b) Doctors

There are two sets of norms for doctors. Firstly, there are norms for Britain. These result from the planning of medical education, and are based on the assumption that doctors are freely mobile within Britain. Norms for dentists in Britain exist for the same reason. The second set is for Scotland. Two - British and Scottish - sets of norms have tended to develop in parallel, although in practice they could have been largely independent.

The first British norms in recent years were produced by the Willink Committee. The committee had been set up in response to the falling number of vacancies available. The remit of the committee was "...to estimate the number of medical practitioners likely to be engaged in all branches of the profession in the future" (MOH, DOHS, 1957). The committee set about the task in a thorough manner, differentiating the wide range of employment opportunities for doctors including those in Scotland. Except for general practice, their method of enquiry was to seek information on the number of likely vacancies. In this respect their evaluation was a behavioural model based on a composite of factors influencing demand. The committee's norm for GPs was that they should have no more than 2,000 patients on their list in rural areas, and no more than 2,500 in non-rural areas.

The next definition of norms was made by the Royal Commission on Medical Education (UK, 1968). Two methods were adopted. One for the projection of the number of doctors needed up to ten years, was very similar to the approach by the Willink Committee. Scottish norms were one component of the estimates of the likely numbers of vacancies available. The second, for longer term projections, was quite

different. Our attention is given to the second.

The Royal Commission noted a cumulative secular increase in the number of doctors per capita in Britain over the period 1911 to 1961. The Commission's view was that the cumulative increase of doctors per capita would continue at more or less the same rate as in the past. This methodology gave no place to individual norms such as existed in Scotland. Their reasons were as follows. They assumed that past rates of economic growth would continue. The extension of health services provision would broaden the range and severity of conditions treated, but would not exhaust the need for health care. This latter observation was somewhat contradicted by their adjustment to the norm, for projected changes in the demographic composition of the population. And finally, Britain's provision of doctors per capita was not high by international standards. The factors identified were thus behavioural and epidemiological.

The next, and most recent, exercise in defining norms was produced as a formal exercise in medical manpower planning, jointly produced by the relevant English, Welsh and Scottish departments (DHSS, SHHD, WO, 1978). This paper, of all the exercises, follows the framework in section IV most closely. Factors influencing the demand for doctors are identified, as are the factors influencing their supply. But this is the extent of the exercise. Defined surplus or deficit follows. Many instruments are available to avoid both, but in the British context the chief one has been to control the intake at medical schools. There is no adjustment that brings into alignment the value and cost of doctors.

This manpower exercise has some value even if it does not allow, to my mind, the appropriate number of doctors to be estimated. More so than previously, it spells out the factors likely to be of some importance in defining norms. Two sets of factors on the demand side are relevant. One set refers to changes in medical practice. These could arise for a variety of reasons and influence the number of doctors needed to maintain a given level of service. Those factors identified are: changes in the proportions in various grades at hospital; the growth of delegation to non-medical staff; changes in technology; and the reduction in hours worked per year. The second set of influences on the need for doctors relates to improvements

in the services provided. This is a function of higher living standards, noted by the Todd Commission. It is also related to the development of new technology which makes possible procedures once considered unimaginable, such as renal transplant.

Consciously, or not, the methodology used is similar to that established by the Willink Committee and, as such, allows Scottish norms to be incorporated in the definition of the norms for Britain.

It would be misleading to infer from the above description of norms for doctors in Britain that the Scots defined their own norms. The potential for different norms has existed but, as in so many other instances in the Scottish Health Service, Edinburgh has followed London's lead. This is evident for GPs and hospital doctors.

The first norms were for GPs, and coincided with the introduction of the N.H.S. Areas which had more than 2,500 patients, on average, on each doctor's list were considered under-doctored. This norm has been used in England too. I have found no explanation for its choice. No area in Scotland, unlike England, was considered to have too many GPs, and was for that reason closed (MOH, DOHS, 1957). Although the norm of 2,500 patients still applies, it is now interpreted with more discretion. The greater role of ancillary staff, the development of group practice, and the increasing number of part-time GPs has given the original norm less validity. No other, however, has been successfully developed to replace it.

Similar norms for doctors working in hospitals had to wait until 1964, following the publication of the Wright Report (SHHD, 1964). The Wright Committee had been set up in November 1961 following the recommendation of the Platt Working Party that "Hospital boards should...institute a review of the medical staffing of their hospitals in the light of the principles set out by the Working Party..." (MOH, DOHS, 1961). In Scotland the review was done centrally: not by each of the five regional hospital boards. The Wright Committee's terms of reference included "...to make recommendations about ... the number, type and distribution of posts required" (SHHD, 1964).

The format of the Wright Report was similar to that of the Hospital Plan, published two years earlier. Norms of staffing levels were defined for virtually the full range of hospital specialities. Generally they were related to the number of beds available. The overriding principle behind the norms was to define the medical

workload and, as a result, most norms were defined in terms of staffed beds, not per capita population. Like the Hospital Plan these norms were applied to every hospital which was not principally a GP unit, and some discretion was applied to take account of "particular circumstances of particular units".

One norm is cited in the SHAPE Report. The Programme Planning Group on Mental Disorder recommended  $1\frac{1}{2}$  whole time equivalent child and adolescent psychiatrists per 200,000 population. This report of the programme planning group has not yet been published, and any reasoning behind its recommendation has not been reproduced in the SHAPE Report. Otherwise no other norms have since been published. Even a professional sub-committee from the Standing Medical and Standing Nursing Advisory Committee set up "To advise on the numbers... of ... staff required..." declined to use its opportunity (SHSC, 1970b).

#### (c) Dentists

In 1943 an inter-departmental committee under the chairmanship of Lord Teviot was set up "...to consider and report upon... the progressive stages by which, having regard to the number of practising dentists, provision for an adequate and satisfactory dental service should be available..." (MOH, DOHS, 1946). The committee did not feel it was possible "...to say with any accuracy how many dentists would ultimately be desirable..." Nevertheless, the Teviot Committee could say "...with confidence that up to a total of about 20,000 in active practice, there is no likelihood of securing entrants more quickly than they are needed" (MOH, DOHS, 1946).

No public study published since then has suggested a substantial revision. A second inter-departmental committee, set up to find ways to increase the number of suitable candidates for dentistry, more or less accepted the Teviot Committee's target for Britain, although the figure of 20,000 dentists referred to the number on the Dentists' Register, not to those in active practice (MOH, DOHS, 1956b). Very recently when the target has all but been achieved if not exceeded, the Nuffield Foundation set up a committee of its own on dental education (Nuffield Foundation, 1980). This committee felt unable to suggest more than that it saw "...no reason to alter the number of dentists in training...however...there is a need to increase gradually the number of auxiliaries in training..." Since then the Secre-

tary of State for Social Services has announced the setting up of a "...departmental study to review likely trends in the supply of and demand for dental manpower over the next twenty years or so" (UK, 1981).

#### (d) Nurses

There has been very little in the way of central government - at the Scottish or British level - direction in respect of norms for nurses. In the early years of the N.H.S. norms, if any existed, were largely left to the regional hospital boards, who had considerable discretion to set up their own nursing training schools. However in 1972 the SHHD sent a circular to the local health authorities giving guidance on norms for health visitors and district nurses (SHHD, 1972). The norms were one health visitor to 4,600 population in normal circumstances, and one to 3,000 population in areas which have "a highly developed system of attachment to general practice or....a particular concentration of health problems". A similar distinction was made for the two norms for district nurses: being one to 4,000 and 2,500 population respectively.

In neither case did the circular indicate the basis upon which the norms had been set, apart from the dichotomies. The norm for health visitors in normal circumstances, in fact, came from the Jameson Report (MOH, DOHS, 1956a). It was based on the number of visits a health visitor might be expected to make, and the number of visits per capita that would, on average, be desirable. In other words, the norm was an explicit conjunction of work study and need criteria.

The two sets of norms for health visitors and district nurses are in the course of revision by a national working party of chief area nursing officers in Scotland. In addition, the working party will be devising similar norms for domiciliary midwives and school nurses. At present only the guideline for district nurses is near completion. Evaluation was based on a work study with patients differentiated by their dependency and circumstances. It was found that the time taken per visit did not vary appreciably with either category, except for visits involving a bath. This information could then be combined with that on the average number of visits for each client group and the number of patients, to define the number of district nurses required by each health board.

Parallel norms have been developed by the North-East Regional Hospital Board in Scotland for nursing requirements in hospitals (WSDNER, 1967 and 1969). Like the Jameson Committee, attempts were made to define the nursing requirements for different categories of patients. Norms have been calculated for acute, geriatric, psycho-geriatric, maternity and paediatric units (wards). And a working party has been set up to define similar norms for mental handicap units. If successful, the latter will provide the basis for mental illness. Then the full range of in-patient care would be covered. Hospital nursing staff norms have also been defined for accident and emergency, out-patient, post-natal and ante-natal clinics. As in the new community nursing norms, they will not be related to the catchment population, but to the number of patients receiving care. They have been recommended by the SHHD to health boards.

These norms, the so-called "Aberdeen Formula", do not have the same official status in Scotland as, say, those for community nursing. Nor are they used by the SHHD in calculating staffing requirements for new hospitals. Nevertheless their value is recognised in that a working party has been set up to correct the two major omissions: hospitals for the mentally ill and mentally handicapped.

(e) Administration

Following the reorganisation of the N.H.S. in 1974 there was a considerable increase in the number of administrative and clerical staff. In consequence the Secretary of State imposed a freeze on staffing levels within each health authority in February 1976, and only in the most exceptional cases were new posts allowed to be created (SHHD, 1977).

This situation continued for some 2½ years. Meantime in 1977 a working party had been set up "to advise... on the definition of management costs...". The working party's definition was subsequently used with a minor amendment, in place of the Whitley Council categories of administrative and clerical staff, because it came closer to the actual practice of management and administration. So defined, the proportion of health board revenue "expenditure that went to management and administration in the financial year 1977-78 varied by health board from 4.92 to 8.05%" (SHHD, 1979). The average for all health boards was 5.70%. These percentages were each health board's respective norm for the financial year 1979-80 after the

freeze on administration and clerical posts had been removed. Health boards that had been above the national average were asked to try to reduce their costs.

The norms for the financial year 1979-80 were used to control expenditure on management and administration. The working party had analysed the variation in the financial year 1976-77, but found little evidence that it accorded with expectations (SHHD, 1977, supplementary memorandum). Health boards which had more executive groups and a more dispersed population spent a marginally higher percentage of recurrent expenditure on management and administration. But otherwise the variation was uncorrelated with a whole range of other health board characteristics, such as population, revenue, administrative and clerical staffing and teaching status. In such circumstances it is difficult to see where these norms fit within the framework defined in section IV.

(f) Summary

Norms for bed provision, doctors, dentists, nurses and administration have been identified. A list of some of them was given in Table 2. Those for bed provision have in two cases used information on patient need, defined in epidemiological terms. Otherwise norms have been defined in terms of current bed use. The norms for doctors have been largely governed by employment opportunities. In respect of hospital doctors these opportunities have been partly dictated by staffing standards to ensure adequate patient treatment. In the case of GPs, no criterion was laid down. The norm for dentists has also been based on employment opportunities. This was defined prior to the introduction of the N.H.S. It has rarely been revised since then. The norms for nurses have been based on two sets of data: what patients need; and what nurses can be expected to do in the time available. All these norms, when explained, have one or more features identified as important in the framework in section IV. The norm for administration does not share this characteristic. Its purpose is purely to monitor and control health board activity.

Conclusions

In this paper it is argued that if the role of charges is reduced in order to obtain greater equality of access to the health services, then conscious decisions about priorities must be made. From time to time they have been. The most recent statement has been the

SHAPE Report.

It is argued that priorities are more easily put into effect if quantitative norms are provided. A variety of factors were identified to suggest what levels the norms should be. Although the SHAPE Report indicates few quantitative norms, in fact a wide range are in operation or have at least semi-official recognition. The identified norms cover the major part of N.H.S. expenditure. One conspicuous omission is of professions supplementary to medicine such as chiropody.

The Working Party on Health Priorities emphasised that value judgements played a large role in its definition of priorities. And indeed it is difficult to see how decisions on priorities would not depend on them. However, if value judgements are to be acceptable, then they need to be well informed. Measuring the value of health services, say, of a visit to a GP, involves a value judgement. But all of the other factors identified in section IV do not. If information on the latter were collected then one could identify the cost of in-patient care for patient X for the first, second, third day, and so on, of care and compare it with the cost of identifying prenatally a mongol whose mother was 42, 37, 35 and so on, years old. With this information choices, based on value judgements, would still then have to be made. Unfortunately, none of the norms identified was based on the full range of data that I believe is required. And maddeningly, the criteria used to construct the norms (even when they were given) were various and often impossible to compare with each other. Nonetheless despite the difficulties, I would argue that quantitative norms (many of which are in fact in use) should be improved and not abandoned. Conscious decisions about priorities must be made. The clearer the criteria used, the better those decisions are likely to be.

#### REFERENCES

Board of Education and Board of Control, Report of the Mental Deficiency Committee (Chairman: A.H. Woods). Parts I and II, III and IV. H.M.S.O., London 1929.

Card, W.I., and Mooney, G.H. "What is the monetary value of a human life" British Medical Journal 24 December 1977

Culyer, A.J., Need and the National Health Service: Economics and Social Choice, Martin Robertson, London 1976.

Department of Health for Scotland, Hospital Plan for Scotland, Cmnd. 1602, H.M.S.O., Edinburgh 1962.

Department of Health and Social Security, Scottish Home and Health Department, and Welsh Office Medical Manpower - The Next Twenty Years, H.M.S.O., London, 1978.

Drummond, M.F., Principles of Economic Appraisal in Health Care, Oxford U.P., Oxford 1980.

Lind, G., and Wiseman, C., "Setting health priorities: a review of concepts and approaches" Journal of Social Policy, 1978.

Mair, W.J., Berkeley, J.S., Gillanders, L.A., and Allen, W.M.C., "Use of radiological facilities by general practitioners" British Medical Journal 21 September, 1974

Ministry of Health, Department of Health for Scotland, Final Report of the Inter-Departmental Committee on Dentistry (Chairman: Lord Teviot) Cmnd. 6727, H.M.S.O., London, 1946.

... An Inquiry into Health Visiting (Chairman: Sir Wilson Jameson) H.M.S.O., London 1956a

.... Recruitment to the Dental Profession (Chairman: Lord McNair) Cmnd. 9861 H.M.S.O., London, 1956b.

.... Report of the Committee to Consider Future Numbers of Medical Practitioners (Chairman: Sir Henry Willink) H.M.S.O., London, 1957.

.... Medical Staffing Structure in the Hospital Service (Chairman: Professor Sir Robert Platt) H.M.S.O., London, 1961.

National Pharmaceutical Consultative Committee Report of the Working Party on General Practice Pharmacy in Scotland (Chairman: Mr. A.R. Rogers), Scottish Health Service Planning Council, Edinburgh, 1980.

Needleman, L., "The valuation of changes in the risk of death by those at risk" The Manchester School of Economic and Social Studies, September, 1980

Nuffield Foundation An Inquiry into Dental Education (Chairman: Professor Thomas C. Thomas), Nuffield Foundation, London, 1980.

Organisation for Economic Co-operation and Development, Public Expenditure on Health, O.E.C.D., Paris, 1977.

Scottish Health Service Council, Mental Deficiency in Scotland (Chairman: G. Matthew Fyfe), H.M.S.O., Edinburgh, 1957.

.... Maternity Services in Scotland (Chairman: Professor G.L. Montgomery), H.M.S.O., Edinburgh, 1959.

.... Services for the Elderly with Mental Disorder (Chairman: Professor W. Malcolm Millar), H.M.S.O., Edinburgh, 1970a.

.... Staffing of Mental Deficiency Hospitals (Chairman: Professor I.R.C. Batchelor), H.M.S.O., Edinburgh, 1970b.

Scottish Health Service Planning Unit, A Review of the Scottish Health Service: A Working Document, 2 vols. S.H.S.P.U., Edinburgh, September, 1979.

Scottish Home and Health Department, Medical Staffing Structure in Scottish Hospitals, (Chairman: Mr. J.H. Wright) H.M.S.O., Edinburgh, 1964.

..... Review of the Hospital Plan for Scotland, Cmnd. 2877, H.M.S.O., Edinburgh, February, 1966.

..... "Local authority nursing services" Local health authority services circular no. 10/1972.

..... District General Hospitals - A Method for Estimating Acute Bed Numbers, Internal memorandum prepared for the Scottish Health Service Planning Council (PC/74/24), dated November, 1974.

..... The Health Service in Scotland: The Way Ahead H.M.S.O., Edinburgh, 1976.

..... "Management Costs in the National Health Service: Report of a Working Party", Unpublished report, 1977.

..... "Management and administration costs in the N.H.S." N.H.S. Circular No. 1979 (Gen) 42, dated 4th September, 1979.

..... Scottish Health Authorities: Priorities for the Eighties (SHAPE Report), H.M.S.O., Edinburgh, 1980.

..... "Implementation of "Scottish Health Authorities Priorities for the Eighties" (SHAPE), Dear Secretary letter to health boards, No. SHHD/DS (1981) 22, dated 30 April 1981.

Scottish Home and Health Department and Scottish Education Department, Services for the Mentally Handicapped, S.H.H.D., S.E.D., April, 1972.

..... A Better Life: Report on Services for the Mentally Handicapped in Scotland, H.M.S.O., Edinburgh, 1979a.

..... Services for the Elderly with Mental Disability in Scotland, H.M.S.O., Edinburgh 1979b.

..... Changing Patterns of Care: Report on Services for the Elderly in Scotland, H.M.S.O., Edinburgh, 1980a.

..... Towards Better Health Care for School Children in Scotland, H.M.S.O., Edinburgh, 1980b.

..... Vulnerable Families, H.M.S.O., Edinburgh, 1980c.

..... Dental Services for Children at School, H.M.S.O., Edinburgh, 1980d.

United Kingdom, Report of the Royal Commission on Medical Education, 1965-68 (Chairman: Lord Todd) Cmnd., 3569, H.M.S.O., London, 1968.

..... Select Committee on Social Services, Medical Education: Minutes of Evidence by Health Departments, 26 November, 1980 (Session 1980/81), H.M.S.O., London

..... Hansard, Volume 5, Written Answers, Column 42, 18 May, 1981, H.M.S.O., London, 1981.

Williams, A. and Anderson R., Efficiency in the Social Services Basil Blackwell and Mott, and Martin Robertson, Oxford and London, 1975.

Work Study Department of the North-Eastern Region, Scotland, Nurses' Work in Hospitals in the North-Eastern Region, Scottish Health Service Studies No.3, S.H.H.D., Edinburgh, 1967.

..... Nursing Workload per Patient as a Basis for Staffing, Scottish Health Service Studies No.9, S.H.H.D., Edinburgh 1969.