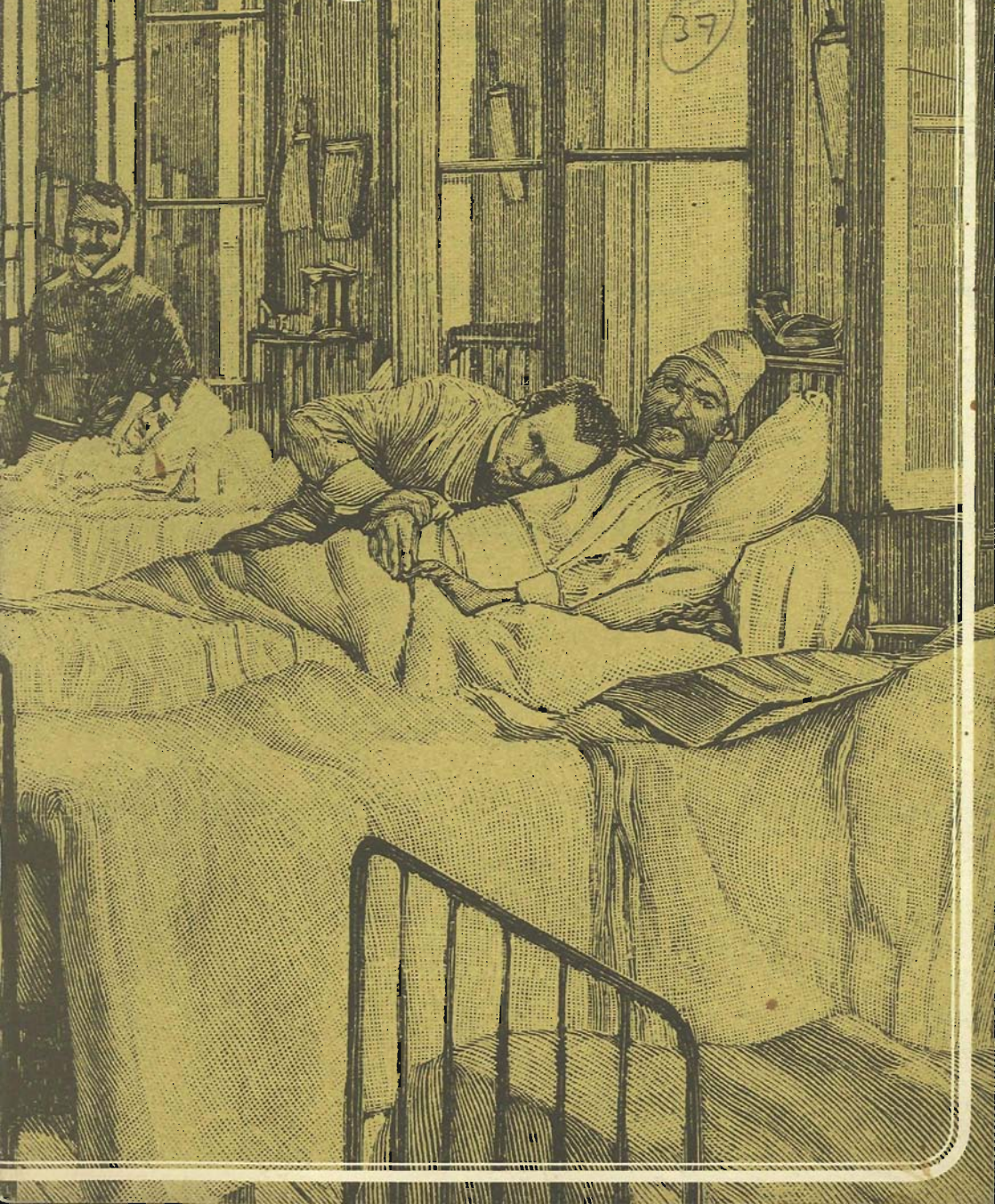


# Prospects in Health



# Prospects in Health



**Office of Health Economics**

162 Regent Street London W1R 6DD

No. 37 in a series of papers on current health problems published by the Office of Health Economics. Copies are available at 15p postage free. For previous papers see inside back cover.

© June 1971, Office of Health Economics.

Printed in England by White Crescent Press Ltd, Luton.

## Office of Health Economics

The Office of Health Economics was founded in 1962 by the Association of the British Pharmaceutical Industry. Its terms of reference are:

- To undertake research on the economic aspects of medical care.
- To investigate other health and social problems.
- To collect data from other countries.
- To publish results, data and conclusions relevant to the above.

The Office of Health Economics welcomes financial support and discussions on research problems with any persons or bodies interested in its work.

In advanced countries, the majority of medical care is no longer concerned with prevention of death. Better social conditions, modern scientific medicine and in particular immunisation and chemotherapy have removed the commonest causes of premature mortality. The remaining deaths before retirement could often best be prevented by social measures, such as a reduction in smoking or accidents, and in any case they account for only a small, if dramatic, proportion of medical activity. The health services as such are now most commonly concerned with acute or chronic morbidity, where the objectives are to limit disease or to prevent progressive deterioration.

This change in emphasis has come about to some extent unnoticed and its implications for the health services have not yet been fully realised. In all advanced countries the aim is to tackle the problem of handling non-fatal acute and chronic diseases as effectively and as economically as possible. However, this aim has to some extent been frustrated by the failure to recognise the underlying pattern of morbidity or to distinguish between demands and needs for medical care. There has been no overall strategy in tackling modern health problems, largely because there has been no realistic definition of health itself.

The control of premature mortality, and the consequent predominance of services to tackle morbidity, has been accompanied by an enormous growth in health service activity and expansion of its scope through technological progress. For example, the numbers of doctors working in the Health Service in England and Wales has increased from 30,000 in 1949 to 43,000 in 1969. Numbers of new hospital outpatients rose from 6.1 million in 1949 to 7.9 million in 1969, while numbers of new inpatients rose from 2.9 million to 5.3 million (HMSO Various Years). This has been associated with a steady growth of expenditure, and although initially this was rather slower than the growth of national income, since 1954 it has been significantly faster. In 1954, the National Health Service accounted for 3.89 per cent of national income; by 1969 this had risen to 5.39 per cent (OHE 1971). In other countries expenditure on health accounts for an even larger proportion of national income and has also risen faster. In the United States, for example,

expenditure on medical care (marginally more widely defined than expenditure on the NHS) rose from 7.01 per cent of national income in 1961-62 to 8.22 per cent in 1968 (OHE 1970).

The extending scope for care can be illustrated not only by the advances in chemotherapy which made possible, for example, the control of infectious diseases, but also by the numerous other advances such as transplants, neurosurgery, radiotherapy, heart surgery and the developments in biochemical analysis and in electronic diagnostic devices. All of these have created innumerable new opportunities for medical or surgical intervention where previously no treatment was possible. It is, however, these advances themselves which have brought in their train the problems in medical care which this paper discusses.

## The borderline of health and sickness

The National Health Service in Britain was planned by Beveridge on the concepts of health prevailing in the 1930s. These assumed that there was a strictly limited quantity of morbidity, which if treated would result in a reduction in subsequent sickness rates. Thus, Beveridge expected the annual cost of the health service to fall as effective therapy reduced morbidity. This concept was never challenged, because at that time no one doubted that the distinction between health and illhealth was usually clear-cut, and if by treatment one could shift an individual from the 'sick' category to the 'well' category one would reduce the amount of sickness correspondingly. It is now well recognised that this idea was mistaken, for three reasons.

First, in strictly scientific or technological terms there is no sharp distinction between a healthy and a diseased state in an individual. For a vast range of the biochemical and physical observations which one can make on an individual there is a continuous distribution curve for the population as a whole. For haemoglobin levels or blood pressure, for example, there is no sharp discontinuity between measurements taken on a 'healthy' population and those in a 'diseased' population. The distribution of measurements ranges smoothly from those for the obviously healthy to those for the obviously diseased. There is a substantial borderline area where one cannot objectively conclude anything from the measurements.

This problem is aggravated in two ways. For one thing, there is no scientific reason to suppose that the most frequent or average measurements for the population are the optimum. With body weight, for example, it has been demonstrated statistically that the optimum body weight lies below the average (OHE 1969). In that case, to attempt to bring the whole population to an average weight/height ratio would for some people reduce their life expectancy. The greatest benefit would come from reducing everyone's weight/height ratio *below* the present average. This could also be true for other parameters. More generally, it is probable that the optimum varies from individual to individual, so that correcting an 'abnormality' by treating an individual so as to bring his measurement to some average value may sometimes be unnecessary or possibly even harmful. With anaemia, for

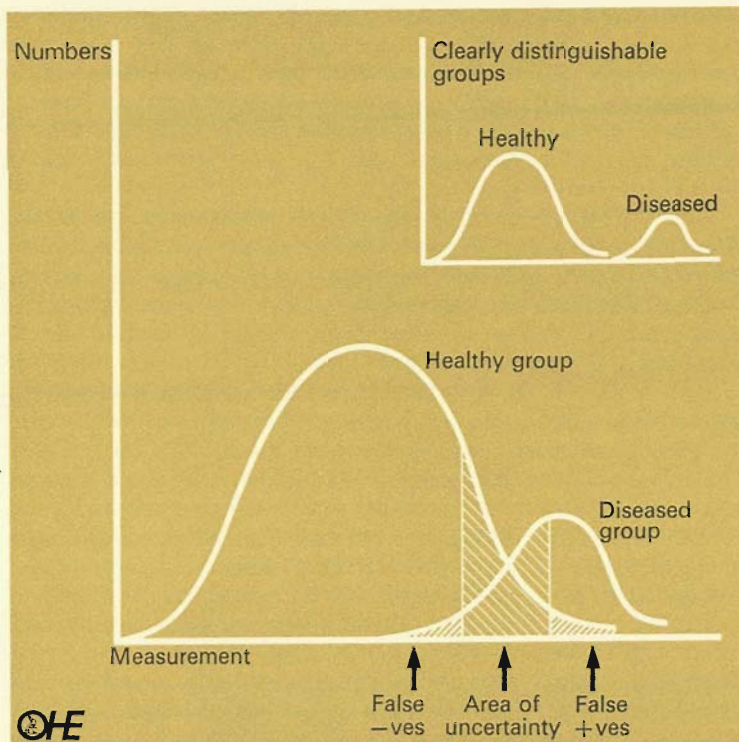
example, it has proved impossible in controlled clinical trials to demonstrate clinical (as opposed to biochemical) benefits through raising lowered haemoglobin levels to the average (Cochrane A L 1970).

The other aggravating factor is illustrated in Figure I. This shows the particular difficulty which arises in cases where the 'normal' and 'diseased' distribution curves for the population overlap. For people falling in the shaded area, it is impossible to tell from the biochemical (or physical) measurement whether they are in the upper 'tail' of the distribution curve for the healthy population or in the lower part of the distribution of the disease group. As the diagram also shows, taking any reasonable measurements to define healthy normals and 'obviously' diseased groups respectively, it is likely that these definitions will nevertheless include a small proportion of 'false negatives' and 'false positives'. The inset on the diagram shows the only distribution pattern in which the diseased population could be unequivocally distinguished from the healthy, and certainly that pattern does not apply, for example, in the case of body weight, blood pressure, blood cholesterol, or haemoglobin measurements.

Secondly, in personal terms, it is a purely subjective judgement on the part of an individual whether he is 'well' or 'sick'. At either extreme there is no difficulty in deciding; but on the other hand, depending on the attitude of the individual, moderate discomfort or a minor disability may or may not be regarded as indicating 'disease'. In Britain, the extent to which demand for medical care is dependent on personal attitudes rather than morbidity is illustrated by the statistics for absence from work attributed to sickness. It has been shown that there can be a three-fold difference in the numbers of spells of absence in groups with apparently comparable morbidity. (Taylor P J 1968). As these figures are based on certified spells of absence, it is reasonable to assume that consultation rates with general practitioners would vary in much the same way.

Thirdly, the borderline between health and sickness has been advancing in a new direction. Obesity, alcoholism, depression, sexual deviations and even strained family relationships are increasingly regarded as diseases justifying treatment. These sorts of social or mental disorder were previously regarded as problems for the individual himself, or perhaps the police courts or the church. Now, the health services are expected to take responsibility for them, so that the definition of illhealth has widened and the scope for medical care extended in this sense also. With these sorts of disorder, the problem of definition becomes almost insuperable. Few people live perfectly balanced

**Figure I** *Overlapping distribution curves for a biochemical (or physical) parameter in healthy and diseased population.*



and adjusted lives and it would be possible to identify for everyone some abnormal or eccentric attitudes or patterns of behaviour.

For these three reasons, sickness and health can no longer be thought of as being separated by a sharp interface. Instead, there is a continuous gradation which has become more apparent with a shift from the acute infections of the 1930s to chronic progressive diseases of the 1960s. Whereas in the 1930s the amount of morbidity was thought of in terms analogous to a globule of liquid of measurable size, it is now seen to be like a planet's atmosphere with a gradually diminishing density as one moves outwards, but with no identifiable surface. As the molecules of gas in the atmosphere become more and more widely separated, one becomes increasingly uncertain whether one should regard oneself as still being 'in it' or 'outside it'. Any



definition of the point at which one 'leaves' the atmosphere is essentially arbitrary. It is now realised that the same problem of definition arises in distinguishing between sickness and health. Thus the public have virtually unlimited scope for regarding themselves as being sick, at the same time as they and their doctors have become able through technological progress to discover an increasing range of physical or biochemical 'abnormalities' in the purely statistical sense. It has been said that 'a healthy person is nowadays one who has not been properly examined'.

This situation has been unwittingly endorsed by the World Health Organisation's definition of health as 'a state of complete physical, mental and social well-being'. Returning to the analogy of the atmosphere, this represents a point when one is well out in space, towards the moon. What most people in practical terms have taken to be a state of health corresponds instead to a point where, although the atmosphere is extremely rarified, one is nevertheless surrounded by numerous molecules of nitrogen and oxygen. Thus most people accept minor aches and pains after strenuous exertion, discomfort after bacchanalian excesses, and even marked anxiety states during periods of stress as normal and healthy. Similarly, doctors accept small biochemical deviations – a haemoglobin of 90 per cent, for example – as insignificant. People learn to live with quite severe disabilities; even a blind person or amputee may be able to adapt satisfactorily although they could never be said to be in a state of *complete* physical wellbeing. Finally, those with behavioural disorders – the homosexuals, vagrants or even drug addicts – although certainly not 'healthy' by WHO standards would frequently resent any suggestion that they should receive the medical attention which in that sense they are defined as needing.

## Public and professional expectations

Although most of the public accept that a minor perturbation from perfect health does not justify professional medical treatment, there is plenty of evidence that potentially their demands for medical care are virtually unlimited. Many community surveys have indicated that the amount of minor illness treated by the patient himself (or else ignored) far exceeds the amount presented to the doctor. In one of the more recent surveys in South London, 95 per cent of the population said that they had

felt unwell at some time during the previous fourteen days. (Wadsworth M 1968). The great popularity of local 'Health Weeks', in which diagnostic tests are offered to the local community, also indicates the potential demand for more medical care.

The most conspicuous public demand for more treatment, however, arises with those cases when the health services are concerned with premature mortality. Although there may be hard evidence that no effective treatment exists, the public will often be willing to try anything which is available, however unscientific. There may also now be a more general expectation by the public that they should be referred to hospital if they are to benefit from the latest advances in medical technology. The general practitioner may sometimes be regarded as little more than a 'gatekeeper' to the main body of medical services which are available in hospital. This could in part explain the rising numbers of inpatient and outpatient referrals.

Furthermore, public attitudes change over time. Disabilities which were tolerated as inevitable in the 1930s are now rightly thought to justify treatment. This is particularly true in old age, where formerly deafness, lack of teeth and even blindness were considered natural consequences of aging. Now, the public have been educated to seek the corrective measures which are available. More generally, rising public expectations of care and a lower threshold of tolerance to disease in society are reflected in the 30 per cent increase in sickness absence, mainly due to less serious complaints, which has occurred between 1955 and 1968. In addition, society's attitudes may be affected by technological progress. The mere existence of a new procedure, such as renal dialysis or transplant surgery, opens up the opportunity for treatment in patients who were previously resigned to suffering from an incurable disease.

Just as the public may seek treatment whether it is scientifically justified or not, the professions may also have motivations to provide treatment which is of unproven value. First, there is a genuine place for the placebo in medicine. Secondly, both the doctor and patient may get more satisfaction if recovery is thought to have resulted from treatment rather than to have been spontaneous; the patient feels his call for medical care was justified and the doctor receives the patient's gratitude for successful intervention. Thirdly, doctors may often be reluctant to admit that there is no known effective treatment for a particular condition; they may feel it is kinder to the patient to maintain their hope by prescribing therapy even when there is no medical reason for doing so. Certainly in some cases individual surgeons

or physicians are quite unreasonably optimistic about the effectiveness of their activities, but if this optimism is conveyed to the patient it may in itself have a beneficial result.

However, in any system of medical care there are also often undesirable economic or administrative motivations for providing unnecessary care. Within the National Health Service, for example, there are administrative factors which may encourage doctors to keep patients unnecessarily in hospital – unoccupied beds are taken as a measure of inefficiency and salary scales are often linked to numbers of occupied beds. Again, general practitioners who are criticised for their prescribing costs could be encouraged to refer patients to hospital so that expensive medicines were prescribed by the consultant.

Finally, the most important single factor affecting both public and professional attitudes to medical care are those inherited from the 1930s. People were probably more reluctant to seek medical attention in those days, and the problems which were taken to the doctor were usually those which unquestionably needed medical attention. Thus neither patients nor doctors had to face up to the present-day 'borderline' problem, and it is still usually assumed that all who seek attention need it in the traditional sense. In addition, ideas on the value of bed-rest still often date back to the early days of this Century, when there was usually little else to offer, and certainly surgery was a great deal more traumatic and hazardous than today.

Against all of this background, it is not surprising that there is in fact evidence that not all medical care is of proven value.

In Britain the hospitals have been gradually increasing their share of the total health expenditure, from 55 per cent in 1950 to 61 per cent in 1969 (OHE 1971), and because of their growing dominance in financial terms it is here that there appears to be most scope for 'wasteful' expenditure in the conventional sense. Several recent studies have suggested that between 20 and 40 per cent of hospital inpatients need only 'minimal' care, and could have been discharged if alternative accommodation were available or if administrative arrangements in the hospital had been more efficient. (Meredith J S *et al* 1968). In addition, there are enormous variations in the average length of hospital stay for certain conditions. Even when hospital populations were standardised for age and sex the Hospital Inpatient Enquiry for 1966 reported there were five-fold differences between different hospital groups in the average length of stay for those with hernias; six-fold variations for those with appendicitis; and nine-fold variations for those with bronchitis and pneumonia (HMSO 1968).<sup>1</sup> Although the extremes for bronchitis and

pneumonia had remained fairly constant compared with 1965 (discounting suspect figures), the differences between the longest and shortest average stay for hernia and appendicitis actually appeared to have increased (HMSO 1967). For 1967, the HMSO Table on which these figures are based was no longer published, possibly because the statistics were thought to be misleading. There is clinical evidence, however, to suggest that at least some hospital stays are too long. In the case of hernia a controlled clinical trial has demonstrated that discharge after one day appears no more harmful than discharge after a week (Morris D *et al* 1968). Yet the average stay in NHS hospitals for this operation is eleven days, and the ranges referred to above suggest that some groups of hospitals may keep hernia patients on average for as long as three weeks. It seems likely that many of the other longer stays also include a large proportion of clinically unnecessary 'bed-rest'.

As far as the effectiveness of the procedures themselves are concerned, tonsillectomy is the most popular example of surgery which is thought to be performed unnecessarily frequently. In 1969 the number of tonsillectomies and adenoidectomies per 100,000 population ranged from 264 in the Sheffield region to 472 in the Oxford region (HMSO 1969). It seems unlikely that this difference was accounted for by the geographical variations in prevalence of disease, if anything the opposite pattern would be expected. Nevertheless there is no evidence that those in the Sheffield region suffer in consequence. In this case, however, it has always proved impossible to set up a soundly planned controlled trial, because the emotional reaction of parents would make it too difficult to decide not to operate in a particular case on statistical rather than clinical grounds.

These sorts of doubts on effectiveness do not arise only, however, with well-established traditional practices. One procedure on which a controlled trial has been undertaken is intensive coronary care. In this study, one group of patients was admitted to an intensive care unit, while a matched sample was allowed to remain at home. On analysis, those left at home had no greater case fatality rate than those given intensive care (Mather H 1970). This example, which is understandably still the subject of considerable controversy, casts doubt on whether even the most modern and scientific therapies always benefit the patient. One final example, this time outside hospital, is the uncertainty of the value of raising haemoglobin levels in cases of anaemia, which has already been mentioned.

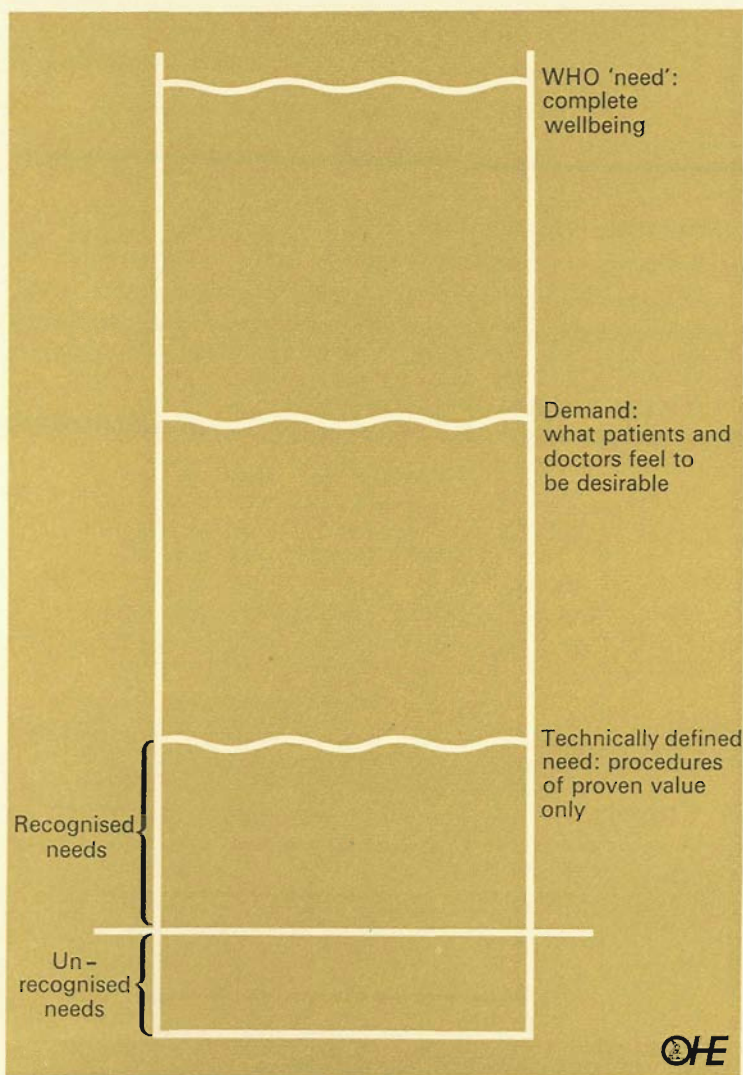
1 The figures on which these statements are based are set out in the Appendix.

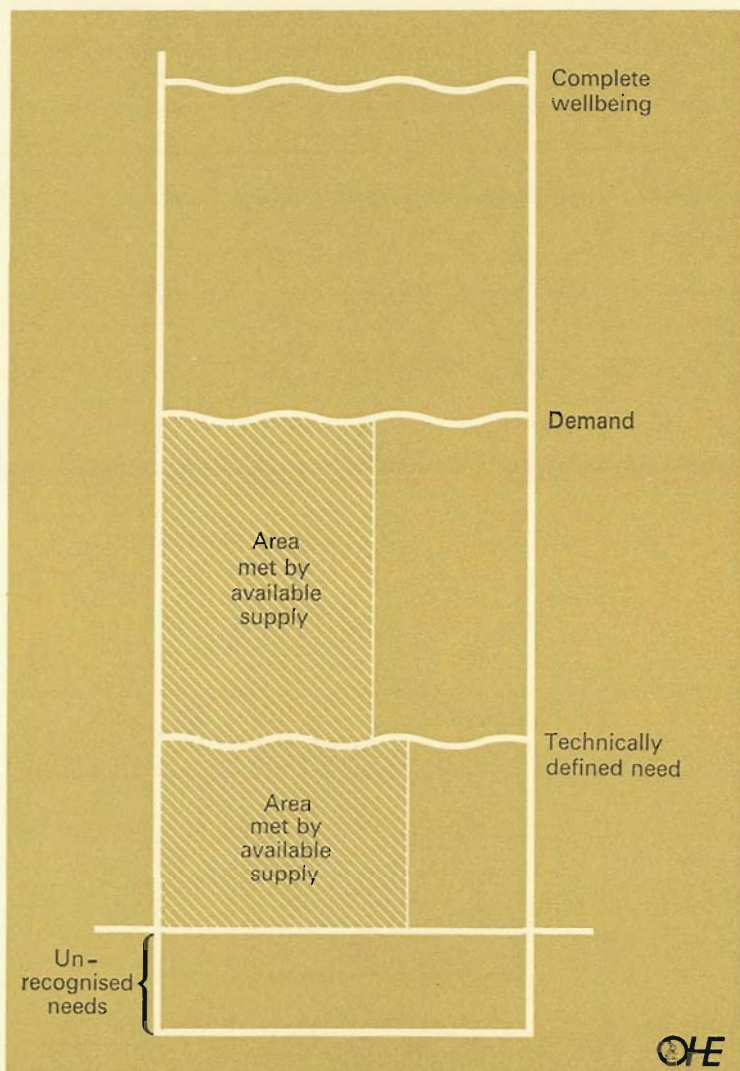
## The definition of need and demand

Thus the health service faces a situation in which there is no precise borderline between health and sickness; there is an understandable reason why both the professions and the public feel that 'more medical care must be better'; and there are indications that many forms of medical care have never in fact been evaluated. It is these factors taken together which explain why the rising expenditure and activity in the health service have so conspicuously failed to cut down the apparent shortage of medical care. For the health services to attempt to make everyone healthy according to the WHO definition would be a chimera. Yet if one brings together Beveridge's objectives for the National Health Service and the World Health Organisation definition of health, this is precisely what the National Health Service should be attempting to do. It is not surprising in this situation that the Service has run into difficulties; indeed it is astonishing that they have not been greater. This problem, of course, is by no means unique to Britain. Every country, whatever their system of delivery of medical care, has faced essentially the same problem.

There is, in addition, another side to the picture which highlights its significance. This is the evidence that many cases with significant medical abnormalities at present receive no treatment because their needs are unrecognised either by themselves or by their doctors (OHE 1964). Thus resources which are being used unnecessarily to meet demands for some aspects of medical care are urgently required to meet needs elsewhere.

The underlying difficulty has been the failure to recognise the difference between demands and needs for medical care. It is clear from the discussion so far that the WHO definition of need has to be modified. In practice, however, no attempt has ever been made to re-define medical needs in the context of our National Health Service. Instead the health services have struggled unsuccessfully to meet demands. Figure II illustrates the relationship between two different concepts of need and our present level of demand. First, there is what can be called the level of 'technically defined need'. This includes only those treatments and procedures which have been demonstrated scientifically to be of value. As the diagram shows, not all of these 'needs' will be expressed as demand at all; some arise from the significant disorders (such as high blood pressure or diabetes) which are unrecognised either by the patient or their doctor. These latter unrecognised needs are what have been called the 'clinical iceberg'.



**Figure III** *How supply meets demand and need for medical care*

Second, there is the level of 'expressed demand'. As indicated, this excludes those needs which are not recognised. It also excludes 'demand' in the sense of a general desire that some new and improved treatment should become available for a currently untreatable condition. That is, it includes only the treatments or care, within the existing medical technology, which patients or their doctors consciously wish to be available. It is determined by the attitudes of the professions and the public to health and medical care which have already been discussed. As again the diagram shows, the level of demand is well above that of technically defined need. This is because demand is swollen by what the Americans now call 'the worried well', as well as those who expect treatment for genuinely trivial disorders and those with serious but untreatable diseases.

Third, there is the level of 'need' defined in WHO terms. Since this is based on the concept of 'complete wellbeing' it lies considerably above even the level of currently expressed demands. The scope for raising the level of demand up towards this third line is illustrated by experience in the United States. It has been reported that by mid-1970, 46 per cent of young Americans were being rejected for the draft on physical or mental grounds. Many produced letters from physicians or psychiatrists who had found genuine evidence of minor disabilities which when recorded were sufficient to justify avoidance of military service (*Time Magazine* 1970). As the diagram deliberately indicates none of the three levels can be precisely defined.

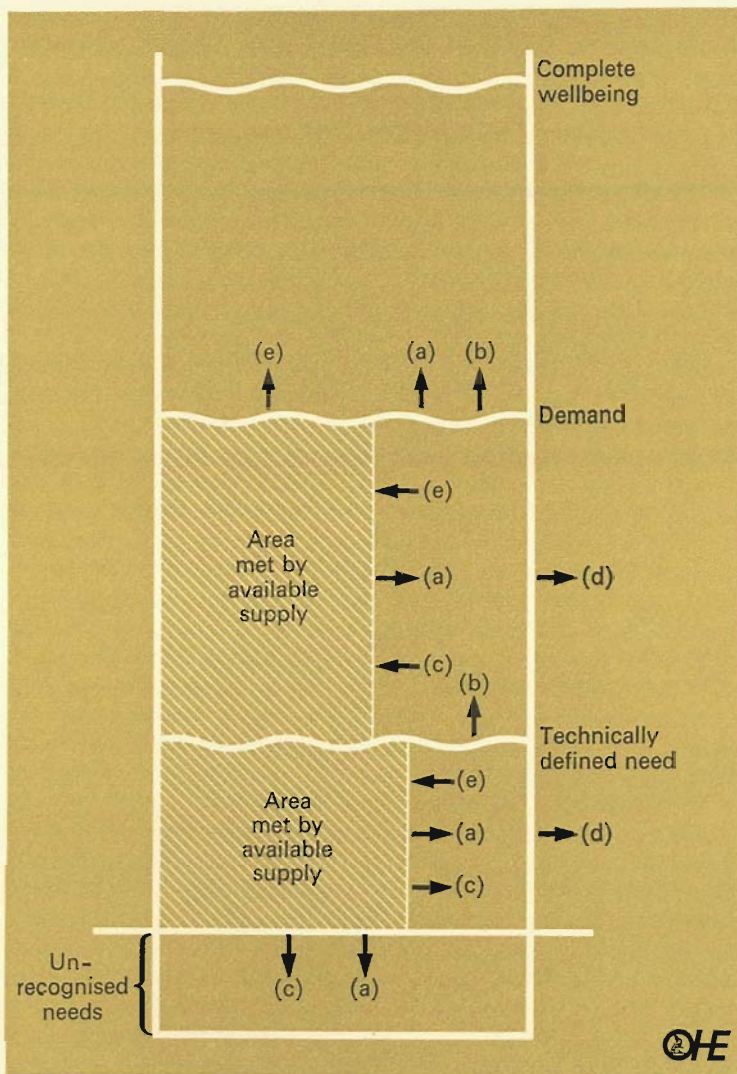
Figure III shows an interpretation of the way in which available supply of medical care attempts to match demand and technically defined need. Clearly, there is an overall shortfall of supply. Nevertheless, much 'unnecessary' demand (whether stimulated by the patient or by the health service system) is at present being met from available supply of medical care; treatments of unproven value are being provided. Figure III (perhaps optimistically) suggests that a larger proportion of technically defined needs are being met. That is, treatments which would bring proven benefits are shown as being more likely to be provided than those whose benefits are unproven. Certainly it is the objective of those providing medical care to achieve this situation, but it is only with the introduction of new pharmaceuticals that the concept of the controlled clinical trial is universally accepted. For other aspects of medical care there has been little systematic evaluation, so that it is impossible to state categorically that a technically necessary procedure is more likely to be provided than one which is of unproven scientific value. It is possible, therefore, that the line dividing met needs



from unmet needs should at present lie to the left rather than to the right of the line dividing met demands from unmet demands. Certainly, as the diagram shows, those technically defined needs which are not recognised by the patient or his doctor will not at present be met because they form no part of the demand for care.

The picture, however, is never static. It will be affected in interrelated ways by increasing the available supply of medical care, by technical progress, by an increasingly scientific approach to medicine, and by society's attitudes both in defining disease and in expectations of treatment. The effect of increasing supply are shown by the arrows marked (a) in Figure IV. It will increase the proportion of needs and demands which can be met, but it will also increase the level of demand and will tend to reduce the area of unrecognised needs. As more medical services become available, people who had never anticipated receiving treatment for their disease will start to realise that they should in fact expect it. There was, for example, no 'demand' (although there was certainly a 'need') for hearing aids among the majority of the elderly until they started to be made available through the health service. As the arrows marked (b) show, a similar situation arises with technical progress. This will raise the level of 'technically defined need' as cures are found for previously untreatable diseases; but, as already discussed, technical progress will also automatically increase demand.

Thirdly, as the arrows marked (c) illustrate, a more rational approach to medical care should increase the proportion of proven needs and should reduce the proportion of irrational demands which are met. This has in the past been described as 'rationing by science'. Such an approach should also start to meet some medical needs which are at present unrecognised, as a result of health services actively going out to seek such cases. The arrows marked (d) show that extending the definition of disease, for example to include the social diseases or minor disorders, will simply extend the whole diagram out to the right, widening the area of unmet demands and unmet needs. Finally, public expectations for medical care may rise if, for example, currently acceptable abnormalities come to be regarded as intolerable or if publicity is given to the introduction of even more heroic procedures for incurable illnesses. As the arrows marked (e) show, such increased expectations will raise the total level of demand. In consequence, a smaller proportion can be met from existing resources.



- a) effect of increasing available supply
- b) effect of technical progress
- c) effect of more rational planning of medical services
- d) effect of extending definition of disease
- e) effect of rising public expectation

## The need for reappraisal

A major problem faces the medical care services in all advanced countries. It is now clear that their rapidly extending activities since the therapeutic revolution are doing little or nothing to close the gap between what is expected of them and what they are able to provide. This is because the potential scope for medical care is literally unlimited, both in technological terms and in terms of personal expectations. There are good reasons, with our present attitudes to health, why both the public and the professions will always feel that more could be done. However, conversely, when assessed in purely scientific terms there is a suspicion that much of what is already being provided is ineffective or uneconomic.

Although it is easy to describe this situation, it is more difficult to prescribe a remedy. There is certainly an urgent need for more evaluation of existing medical care procedures. This does not imply that complete uniformity in medical practice could or should be achieved. It may often be difficult to prove the value of new technological procedures in their early stages; and the practice of medicine must always remain a highly personal matter. Nevertheless, with systematic evaluation many more procedures may be shown to be unscientific or uneconomic. Two further questions follow, however. The first is to what extent it is possible to persuade the public and the professions to abandon these procedures. The second much more far-reaching question is the extent to which it is desirable that medical care should be assessed by itself in purely scientific and economic terms.

In eliminating unscientific and uneconomic procedures, the first approach must be to the medical profession. Widespread publicity must be given to the results of evaluative studies, but this publicity by itself will not necessarily change attitudes or behaviour. For this, a more personal approach may be necessary. In Scotland, for example, each consultant is now given information on how his own activities – for instance the average length of time he keeps his patients in hospital before and after surgery – compare with those of others (Heasman and Carstairs 1971). It should be emphasised again that it would be undesirable to strive for complete uniformity in such matters. Nevertheless an individual who sees himself consistently out of line with the majority of his colleagues may be encouraged to ask himself whether his own pattern of activity is justified. In making such comparisons, it must also be emphasised that harm can be done

if too narrow a view is taken. The example of bed occupancy rates has already been mentioned; it was economically wrong to encourage consultants to keep their beds filled for as large a proportion of time as possible, when this could mean delaying an otherwise desirable early discharge. Similarly, encouraging a reduction in costs for one part of the health service may increase costs elsewhere. The comparative picture against which a doctor is invited to judge his own performance must be broad enough to allow a valid overall assessment.

As far as the public are concerned, one positive step would be to educate them to realise that, despite recent medical progress, there are still conditions for which no useful treatment yet exists. In this, there is scope for the general practitioner to play a central part. There is some evidence that at the point of first entry to the medical care system – the general practitioner – there has been little or no increase in demand. Indeed, numbers of patients presenting for treatment have fallen in some practices over the past decade (Royal College of General Practitioners 1970). If the number of general practice consultations has not increased, it means that a larger proportion of those consulting are now being referred to become both hospital outpatients and inpatients.

This trend should be reversed by the present developments in general practice. Doctors working from health centres or purpose-built group practice premises will have the facilities themselves to provide more comprehensive care, and they should have less need to refer patients to hospital.<sup>2</sup> They should at the same time encourage patients to feel that the great majority of their medical needs can in fact be met in general practice, and that hospital treatment – although more specialist – is not necessarily superior to general practice care. If the patient is to be told that no useful treatment is available, there is no benefit in a consultant breaking this news to him rather than a general practitioner. This should become more generally accepted as a 'second opinion' becomes more usually available from another partner within the health centre or group practice itself.

It has also been suggested that multiphasic screening and

<sup>2</sup> A study of the utilisation of medical care in Exeter showed that single-handed practitioners in fact tended to refer patients *less* frequently than doctors working in groups, which would appear to be contrary to the prediction above. (Ashford J R and Pearson N G 1970). The Exeter findings may, however, represent an intermediate situation, and referrals may fall again once the group practices themselves are supplied with more technical resources. One of the most interesting findings of the Exeter survey, however, was that those practices which referred patients for consultations most often were also those with most frequent inpatient admissions.

presymptomatic diagnosis could improve the match between needs and supply in medical care. (Garfield S R 1970). This is probably true, but it would be misleading to suggest that it would reduce total demands for attention. The experience of the Kaiser Permanente organisation in California has shown that the introduction of regular multiphasic screening increased the total consumption of medical care, both in the form of the health tests themselves and also because otherwise undetected conditions were brought to treatment (Ramcharan S 1970).

Another positive step is to inculcate in the public a sense of more personal responsibility for individual good health. Again, the opportunities arise most frequently in general practice, where patients can be advised on how to avoid the medical episodes which represent a breakdown in their health. The public should be taught to understand that their illhealth is likely to be in part at least a response to their environment and activities, and in these cases people should be encouraged if possible to modify their behaviour. Already this is recognised by the medical profession in the case of smoking, where the Royal College of Physicians have accepted a responsibility for education of the public on the dangers of cigarettes. They consider that discouraging smoking is just as much a medical function as treatment of the bronchitis, heart disease or cancer which results from it. (Royal College of Physicians 1971). This role for the medical profession is also recognised in the industrial health service, where doctors are responsible for ensuring a healthy working environment, and in the local health services, with their responsibilities for preventive medicine. Further, those who injure themselves either by heavy smoking or by neglecting safety regulations in the factory or by refusing immunisation should properly be criticised by those who subsequently have to treat them. This preventive approach could be extended if it were recognised that other diseases were also caused in response to more subtle personal abuse by the individual – or to abuse by society of the individual. Those with psychosomatic or mental disease, for example, should be advised how to avoid situations which precipitate their illnesses.

The public should also be encouraged to continue to make intelligent use of self-medication. The South London survey indicated that many more people consult their pharmacist than their doctor for minor illnesses. The pharmacists must accept this responsibility, as they traditionally have done, being ready to advise a medical consultation if this seems justified, but more often providing merely a palliative and reassurance. Although it is sometimes argued that no one less highly qualified than a

doctor should give health advice in this sense, it is now recognised that the health services would quickly be overburdened if they had to handle all trivial disorders. The pharmacist – or a health visitor in general practice, for example – is likely to take more sensible decisions on the need for a medical consultation than the patient himself or his relatives.

These measures might all help to introduce a more rational use of the health services and to reduce the present unscientific demands and supply in medical care. The situation must, however, be viewed in its broader sociological setting. All those who at present consult their doctor need help of some sort, although perhaps not always of the sort they will receive from the health service, where their symptoms will often be taken at face value. Little specific research has been done on the motivation of patients in consulting their doctor, but there is some evidence, for example, from the Tavistock seminars for general practitioners. In many cases, patients seem to be consciously or unconsciously trying to avoid some situation by 'becoming ill'. This may simply be a desire to avoid a tedious or uncongenial job, or it may be a more subtle response, for example, to feeling unable to face up to new responsibilities. If these people are discouraged from consulting their doctor or are denied treatment because they are not 'ill' in the traditional sense, their problems and dissatisfactions may merely emerge in some different and perhaps more troublesome form.

The problems associated with the widening expectations and scope for medical care and the increasing consumption of resources are not unique to the health field. There has been an even more rapid increase in expenditure on education and on social security benefits, while in all social services expectations continue to exceed what it has been economically possible to supply. As society raises the level at which it defines poverty, for example, the numbers of poor increase correspondingly. As it becomes accepted that more people could benefit from higher education, university places continue to be in scarce supply despite rapid expansion. So it has also been with health. The human demand for care and comfort, in whatever form, is potentially unlimited. Faced with this situation, the social scientists are aware of the miserable inadequacy of the analytical tools at their disposal, with which they seek to produce advice on social policy. If the definition of illhealth were narrowed down, and if the provision of medical care were more scientifically confined, how should we meet the present social demands which would then be excluded from medical care?

Despite our present inadequate knowledge and understanding,

however, it is important that we should take this broader view of medical care. It is clear from the discussion in this paper that the health services are not now concerned only with illhealth in the Beveridge sense, because that narrow concept no longer exists in society. In the future, social medicine as a specialty must assume a paramount position in the reorganisation of medical care. It is with health problems in their social context that the health services are now so inadequately trying to cope.

The starting point for any reappraisal of the role of medical care should perhaps be a redefinition of health itself. The WHO definition is obviously unrealistic. The Oxford English Dictionary offers an alternative: 'soundness of body; that condition in which its functions are duly discharged'.<sup>3</sup> This emphasis on the functional aspect of health is perhaps important. In this sense a stabilised diabetic would be classified as healthy even though certain occupations, such as being an airline pilot, would be closed to him. The definition of illhealth then becomes confined to those situations in which an individual has to withdraw from society, or some essential aspect of it, as a result of sickness.

This approach would have an important advantage. It would again put the general practitioner, or doctor of first contact, firmly in the central position. Although he would sometimes need to call on specialist advice, his aim would be to keep his patients under his own control and functioning adequately (according to their own definition) at work and in society.<sup>4</sup> As long as he was able to do so, they would be regarded as healthy. Such people may often need some sort of pharmacological support, as with the diabetics or depressives, for example, in order to maintain or restore their performance. It might not always be possible to eliminate all their discomfort, and they might have to adjust their way of life to avoid situations with which they were unable to cope. But the point of failure, at which their health was regarded as having broken down, would be the point at which this support failed or the discomfort became tolerable only by withdrawal from work or from society, for example through hospital admission.

If this became an accepted attitude, general practitioners and their patients would perhaps see sickness certification in a

3 Freud also used a functional definition of health, which had particular relevance to his own interests. He is said to have defined it as the ability to love and to work.

4 We now have a tolerant society in which a person should be allowed to choose a life pattern - provided it is economically viable for him - which does not necessarily conform to any stereotype.

new light. If the desire to withdraw from work was precipitated by unsatisfactory working conditions, an employer could be seen to be encouraging sickness in this sense. Doctors and patients would also view differently their referrals to hospital and might in turn convey their new attitude on hospital admission to the consultants. In doing so, the emphasis might eventually be shifted on to medical care in the community. Much of this could be directed towards preventing illhealth, in the sense of avoiding eventual disability.

For all this to be effective, the proposed integration of the health services would be essential and the area boards which have been proposed would need to be given responsibility for strategic planning. The sort of change in attitude and emphasis implied in this discussion would be extremely difficult to bring about on a national scale. However, if responsibility for health service planning and administration could devolve onto the area health boards local initiatives becomes possible. The boards could redefine their regional health objectives in consultation with those responsible for the social services and restructure their health services accordingly. The optimistic view is that they would do so with an understanding of the problems of medical care which are relevant to the 1970s, rather than in terms of the classical and now outdated attitudes to sickness and health inherited from the 1930s.

## References

- Ashford J R and Pearson N G (1970) *Journal of Royal Statistical Society* 133/3 Series A.
- Cochrane A L (1970). *British Medical Bulletin* Vol. 27 No. 1.
- Garfield S R (1970). 'The Delivery of Medical Care'; *Scientific American*, April, 1970.
- Heasman M A and Carstairs V (1971) 1,495.
- HMSO (1967). *Hospital Inpatient Inquiry for the year 1965*, Part I, Table 11.
- HMSO (1968). *Hospital Inpatient Inquiry for the year 1966*, Part I, Table 11.
- HMSO (1969). *Hospital Inpatient Inquiry for the year 1967*, Part I, Table 3.
- HMSO (Various Years). *Ministry of Health Annual Reports*.
- Mather H (1970). Paper delivered at the BMA Clinical Meeting.
- Meredith J S, Anderson M A, Price A C and Leithead J (1968). 'Hostels in Hospitals'. OUP.
- Morris D, Ward A and Handyside A J (1968); *Lancet* i, 681.
- ONE (1964). *New Frontiers in Health*.



- OHE (1969). Obesity and Disease.  
 OHE (1970). Information Sheet No. 9.  
 OHE (1971). Information Sheet No. 11.  
 Ramcharan S (1970) Private communication.  
 Royal College of General Practitioners (1970). 'Present State and Future Needs of General Practice' (Second edition).  
 Royal College of Physicians. (1971) 'Smoking and Health Now', Pitman.  
 Taylor P J (1968) *British Journal of Industrial Medicine* 25; 106.  
*Time Magazine* (1970) 16 November; page 55.  
 Wadsworth M (1968) in 'The Consumer and the Health Service' OHE.

## Appendix

*Standardised duration of stay ratios for three selected diagnostic groups: extremes in 1965 and 1966.*

	1965	1966
<b>Hernia of the abdominal cavity</b>		
<i>Highest</i> Hendon	166	<u>210</u>
Newport and E. Monmouthshire	<u>195</u>	<u>180</u>
(Luton and Hitchin)	(289)	(80)
<i>Lowest</i> Sheffield No. 3	<u>51</u>	<u>41</u>
<i>Ratios between relevant extremes</i>	<b>3.8</b>	<b>5.1</b>
<b>Appendicitis</b>		
<i>Highest</i> Romford	116	<u>257</u>
Hartlepoons	<u>217</u>	—
<i>Lowest</i> King's Lynn Area	<u>76</u>	<u>39</u>
Bingley, Keighley, Skipton and Settle	<u>50</u>	<u>66</u>
<i>Ratios between relevant extremes</i>	<b>4.3</b>	<b>6.6</b>
<b>Pneumonia and Bronchitis</b>		
<i>Highest</i> Brecon and Radnor	<u>410</u>	<u>345</u>
(King's Lynn Area)	(55)	(1391)
(Worksop and Retford)	(453)	(86)
<i>Lowest</i> Cosham and Retfenchey	<u>43</u>	<u>38</u>
<i>Ratios between relevant extremes</i>	<b>9.5</b>	<b>9.1</b>

*Source* Table 11 HIPE for 1965 and 1966

*Notes* 1) Extremes shown in brackets have been discounted because of suspiciously large fluctuations between years. Relevant figures for each year are underlined. The others are shown for information.

2) Averages based on less than 20 observations (italicised in the HMSO Table) are excluded.

