The definition and identification of need for health care*

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SUMMARY Some definitions of need for health care as a basis of planning health services are discussed. A model proposed by Donabedian (1974) relating need to resources is used to consider the problems faced by the Resource Allocation Working Party (RAWP) (Department of Health and Social Security, 1976). The paper concludes that need should be defined in relation to the procedures available to meet it and the resources that permit those procedures to be used. The procedures include the whole gamut of prevention and screening, cure and care, research and development. This necessarily raises moral and ethical issues which stretch beyond the limits of medicine and concern patients, their relatives, and the public in general. Neither the medical profession nor the lay public can be expected to help define need for health care unless they understand the underlying issues. This is a challenge to those responsible for professional and public education.

The claim that only patients who can pay have the right of access to health services, and therefore a right to health, is unacceptable to almost everyone nowadays, yet Glass (1976) said that in the connotation of planning health services 'need is a useless concept'. Although he was deliberately trying to be provocative, it is worth considering the merits of his statement.

There have been two very different approaches to the definition of need for health care. The older of the two was described by Donabedian (1974) as 'some disturbance in health and well being'; he continued 'need is defined, therefore, in terms of phenomena that require medical care services'.

This is a 'humanitarian' view which implies that when there is human suffering we must do something about it. It concentrates attention on the identification of the suffering rather than on how it can be relieved. It is nevertheless paradoxical because although it is predicated in the belief that all the sick should be helped, it fails to take into account the consequence of limited resources for health care. If some of the needy receive the very best, nothing may be left for others. We cannot be endlessly generous and continue to be fair.

These concerns have led Matthew (1971) and Cochrane (1976), among others, to suggest that need should be recognised only when it can be met with 'some medical intervention that has positive utility and that actually alters the prognosis of the disease in some favourable way at reasonable cost' (Matthew, 1971). Those who espouse this definition are obviously concentrating on conditions for which treatment may have something to offer rather than on the problems of caring for the chronically incurable and terminally ill, but within these limits this definition has an overriding constraint—namely, 'at reasonable cost'.

This second, 'realistic' approach states that consideration must be given to the utility of the procedures available to meet need as well as to the qualities of the population itself. The basic judgement the humanitarians have to make is whether an individual or society is in poor health (this is easier said than done); whereas the realists have to make two more judgements. Can the condition be improved? And is the cost of doing it reasonable? In other words, it is pointless to label something as need if you cannot do anything about it. The starting point for this definition is the availability of resources, by contrast with the approach of the humanitarians who concentrate on the identification of need.

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Answers to the question 'Can the condition be improved?' have been found for some, but by no means all, diseases by the researches of clinicians, pathologists, biochemists, radiologists, epidemiologists, and others who constitute the medical profession. It is they who have classified disease and devised procedures for diagnosing, treating or preventing it, and it is they who have evaluated whether treatment or prevention works. The question of whether cost is reasonable is a relatively new one; I shall return to that later.

Need and 'need for': the concept of equivalents

Donabedian (1974) emphasised that the word 'need' should be reserved to describe states of people. He added that each need will be met by some form of service. Furthermore, need viewed in this way can be translated into its 'equivalents' in terms not only of service but also of the resources necessary to provide the service required. By introducing the concept of equivalents he thus develops a model which disposes with the idea of 'need for'—need for hospitals, need for nurses etc., and confines the use of the word 'need' to the client.

A service equivalent of need is therefore a procedure or procedures that may be deployed to meet that need: for example, a consultation with a health professional—such as a cardiologist or a speech therapist, the prescribing and consumption of medicine, a surgical operation, or the use of an ambulance or a hospital bed. Therefore 'a particular bundle of services can be translated either into its capacity to satisfy need or into the resources required to produce that bundle of services, and a given set of resources has its equivalents in the services they can produce and the needs that they can satisfy... thus need may be conceived and assessed in terms of three different, although related, phenomena' Donabedian (1974).

Figure 1 uses the model of Donabedian (1974) to illustrate the two approaches to defining need in relation to the delivery of health care. The doctor in his daily work decides case by case what the service equivalent of need will be in either approach, but whereas in the 'humanitarian' approach the allocation of resources will follow from his decision, and therefore may be inequitable, in the 'realistic' approach, decisions about service equivalents may, in any set of circumstances, be constrained by resource allocation.

Classification of phenomena underlying need

Underlying need are four phenomena: risk of morbidity, pain and discomfort, dysfunction (that is to say disability and impairment), and risk of mortality. Attempts to meet each kind of need should lead to an acceptable outcome and the needs, together with their outcomes, are shown in Fig. 2. When need stems from actual morbidity, the optimum outcome that can be achieved may not be cure or even palliation, but death. The Hippocratic Oath does not deny the patient the right to death with dignity and it is perfectly proper for the doctor by his choice of service equivalents to prepare or support his patients with this end in view. When need arises from the risk of morbidity, the need is for prevention; it is the only form of need for which death is not an acceptable alternative.

To meet the need for prevention various actions can be taken. It may be possible to modify the environment, removing the component which is a risk to human health; to protect the client against the disease from which he is at risk either by immunisation or by educating him to change his behaviour; or to alter the course of the disease favourably as a result of early diagnosis.

Decisions about service and resource equivalents of need

Decisions about the service equivalents of need fall within the province of the medical profession. Whether a patient with duodenal ulcer is to be treated surgically or medically, whether one with varicose veins is to be treated as an outpatient or an inpatient, or whether a patient with acute myocardial ischaemia should be treated in a coronary care unit or in his own home are all,

![Image](http://i.imgur.com/12345678.png)

**Fig. 1** Comparison based on a model developed by Donabedian of two approaches to the definition of need for health care.
very properly, medical decisions; but in each instance
the choice will be made only if the patient can
consult a doctor in the first place and it will be a
real choice only if resources are available to make
alternative forms of treatment feasible. A resource
equivalent is a subset of resources which can be set
aside to produce a bundle of services and so meet
a need. In some circumstances the resources may
not be available to provide such equivalents, so that
no treatment at all is possible. Thus the general
level of economic development plays an important
part in establishing the service equivalents of need,
as does government policy on what resources
shall be directed to health care. If the poor cannot
pay, and public funds are not set aside to pay for
them, they cannot be treated. Thus even in the
humanitarian approach the clinical freedom of the
doctor is to a greater or lesser extent limited by
public policy although he may not realise it. Indeed
this approach is not really humanitarian at all because equity of access to health care is
denied. No doubt this is why Fuchs (1972), an
economist, described it by the adjective 'romantic'
rather than "humanitarian". Romantic though it
may be, the approach has the merit of looking out
beyond regular clinical experience to those who do
not or cannot gain access to health care services.

Outside the Communist world there have been
few, if any, attempts to implement the 'realistic'
approach. One example of its use being recom-
mended as a basis for planning and managing
health care services is the report (Department of
Health and Social Security, 1976) of the Resource
Allocation Working Party (RAWP).

The RAWP knew with some accuracy the
resources available for allocation. Their task was to
match these to need; to assign resource equivalents
of the various forms of aggregated need to the
13 regions in such a way as to enable services of
equal quality, quantity, and accessibility to be
provided throughout the country. But the RAWP
lacked any direct measure of need, and was
therefore compelled to use the number and the
age/sex structure of the population adjusted for
the magnitude and nature of the mortality experienced
as an indirect measure of need (Department of
Health and Social Security, 1976; Bennett and
Holland, 1977). Also lacking was detailed informa-
tion about current judgements of service equivalents
for the various forms of need; and as Fig. 1 shows,
to link resource equivalents to need it is necessary
to take service equivalents into account.

The needs arising from diabetes (ICD chapter
III) (World Health Organisation, 1967), post
partum haemorrhage (ICD chapter XI), and
cerebral thrombosis (ICD chapter VII) are met in
very different ways—that is to say each disease
has very different service equivalents. In order to
allocate resources for acute hospital care the
RAWP decided to accept national bed usage for
each ICD chapter as an index of service
equivalents and to adjust this by each age and
sex group in the population. These procedures are
open to criticism on many grounds but that is not
the point; the point is that indices of need and of
service equivalents were chosen, and by estimating
both it was possible to complete the equation.
Resource equivalents of need for acute hospitals
in each region, which seemed appropriate within the
terms of the model, could be calculated (see Fig. 3).

**Implications for medical practice**

The decision to promote health care planning based
on clearly defined, and indeed rationally allocated
resources, does not mean that if the recommenda-
tions of the RAWP are implemented, the doctor
who must decide how he will care for his patient,
or the planners at area or regional level who have the responsibility for developing services, are obliged in future to continue to use the same service equivalents as they have in the past. They should be prepared to use any innovation which seems sensible provided that it can be obtained with the available resources. This proviso applies to any planning system which is working properly, and it is important because it may mean that time-honoured procedures of little, if any, value will have to be abandoned to allow the introduction of new ones. It may also mean acceptance of less than the very best. The consequences can be painful; as Klein (1977) indicated, the fact that increases in NHS costs in 1977-78 have had to be met out of an allocated budget probably means that higher overtime payments to junior hospital doctors cut the money available for other purposes.

Therefore although the clinician will usually decide upon the service equivalent of a given need, his decision—and therefore the service equivalent itself—will be influenced by three other critical factors: firstly, the probability that the use of the service equivalent he proposes will lead to an acceptable outcome (see Fig. 2); secondly, that resource equivalents are available to provide it; and thirdly, that the ethical issues have been faced. The ethical dilemma that underlies an increasing amount of medical practice is a dilemma which may more often be covert than overt. It is very real nevertheless. As Campbell (1977) put it ‘... the decisions are hard ones. Is it more important to prolong some lives by transplantation (or by other facilities of high-technology acute medicine) or to lower infant mortality rates in the community at large? Is it more tolerable to have outmoded and inhumane institutions for the mentally retarded and the senile than to have less than adequate facilities in community health centres?’ (It is interesting that Campbell, a theologian, is willing to accept the agonising ‘either ... or’ of the realistic approach which presents such difficulties to many clinicians.) It is issues like these which may underly the decision to create a second consultantship in cardiovascular surgery, install a total body scanner, or open a coronary care unit.

This leads us back to the definition of need. If the realistic approach is adopted, it would be reasonable and helpful if epidemiologists who set out to measure need for planning purposes could encourage definitions of it to be framed with the constraints determined by service equivalents. The constraints will vary from one society to another. There is no justification for surveying the populations of Chad or Nicaragua for varicose veins because although technology permits successful treatment, resource equivalents for providing treatment are not available in those countries.

Nearer home, a strong case can be made for measuring with some precision the magnitude and distribution of the problem presented by arthritic conditions of the hip. Treatment for this

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**Table:**

<table>
<thead>
<tr>
<th>Resource Types</th>
<th>Estimated by the RAWP from indices</th>
<th>Calculated by the RAWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOCK AND NEW RESOURCES</td>
<td>Determined by history and government policy</td>
<td>RAWP equation</td>
</tr>
<tr>
<td>Resource equivalents for each region</td>
<td>Present level a consequence of previous practices; future levels would be modified in the event of the RAWP's proposals being implemented</td>
<td></td>
</tr>
<tr>
<td>SERVICES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service equivalents</td>
<td>Index: bed usage</td>
<td></td>
</tr>
<tr>
<td>NEED</td>
<td>Index: grouped mortality adjusted for age and sex</td>
<td></td>
</tr>
</tbody>
</table>

*Fig. 3 Allocation of resources for acute hospital services.*
condition can be provided at reasonable cost to large numbers of people whose wellbeing can be greatly improved by it. But it is not so easy to argue that precise measurements of the problem presented by arthritis of the hands or the knees should be attempted (conditions which probably cause distress to at least seven million people in England and Wales alone) because there is no generally acceptable service equivalent for them. There are few cases in which the doctor can be confident that medical or surgical treatment change the course of an illness, but hospitalisation can raise the morale of the patient and give relief and rest to relatives and these are good grounds for admission to a district hospital if not to a regional centre. Clearly what can be done effectively must be done, but our definition of need here is constrained by our impotence.

Defining and identifying need

It is unrealistic to consider need in absolute terms. To be useful, it must be defined in terms of the expertise of the health professions, and of the resources available at local level to provide such expertise. Its definition is therefore a joint responsibility of the health profession and the citizens—that is to say their patients and their patients’ relatives. The Greek for a citizen is πολίτης and the definition of need is in essence political. The citizens are the third parties to whom Culyer (1976) turns as he seeks to define health indicators.

An attempt to summarise some of these arguments in the form of an iconic model is presented in Fig. 4. ‘All’ need, in the humanitarians’ sense, is partitioned vertically along the lines proposed by the realists according to whether or not effective technological procedures have been developed to meet it. It is further partitioned horizontally, in two strata: firstly, according to whether or not it has been perceived; and secondly, according to whether, if perceived, it has been met. Services will be directed towards preventing and curing when this can be done, or caring when that is the only course. In the end the relative importance

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Fig. 4 Summary of some of the arguments presented. The ways in which need is met depend ultimately upon how resources are partitioned and directed towards preventive and curative services (spotted), caring services (hatched), and research and development. No attempt is made in the diagram to represent the relative proportions of these three.
of these two forms of activity will depend upon the allocation of resources. If unmet need is to be met, unperceived need identified, and new cures and preventive procedures discovered, it is necessary to set aside resources and develop resource equivalents for these purposes.

Once need has been defined it is feasible through properly designed epidemiological investigations such as prevalence and incidence studies to describe how much there is, as well as where it is. However, because more often than not prevalence and incidence studies are of randomly selected sub-samples of a larger population, these cannot be relied upon to indicate who is needy. Estimates of the total numbers can be made, but only those in the sample will be identified as individuals. Screening sifts through the healthy to find the needy and at times the latter may be in a ratio of one to many thousands; but only thus can individuals who need health care be identified. Screening is a procedure which can make very heavy demands upon resources, and must eventually be accounted for in some way.

It was pointed out, again by Campbell (1977), that discrimination between people with the same needs cannot be morally justified. He goes on to say that decisions of priority in medicine must be discussed publicly and should not be the sole prerogative of any one professional group or any single agency of government. The medical profession has a major role to play in forming judgements about service equivalents, but once this has been done informed members of the public must help to decide what constitutes need. Glass (1976) may have been right to call useless the approach to defining need described in this paper as humanitarian. But the realistic approach is not useless. To employ it will require extensive public and professional education. Therefore the problem is not just how to measure health or who measures it, but education. The health professions and the citizens at large are too often moved by fear and ignorance instead of reason. But if they were appropriately informed, it can be confidently assumed that they could and would help in reaching the appropriate decisions. The aim, therefore, is to inform them.

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References


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