Health needs assessment: 6 articles from the BMJ

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1) Development and importance of health needs assessment

**BMJ**1998;316:1310-1313( 25 April )

This is the first in a series of six articles describing approaches to and topics for health needs assessment, and how the results can be used effectively

**John Wright**, consultant in epidemiology and public health medicine, **Rhys Williams, professor of epidemiology and public health**, **John R Wilkinson, deputy director of public health.**

Most doctors are used to assessing the health needs of their individual patients. Through professional training and clinical experience we have developed a systematic approach to this assessment and we use it before we start a treatment that we believe to be effective. Such a systematic approach has often been missing when it comes to assessing the health needs of a local or practice population.

The health needs of individual patients coming through the consulting room door may not reflect the wider health needs of the community. If people have a health problem that they believe cannot be helped by the health service, then they will not attend. For example, many people with angina or multiple sclerosis are not known to either their local general practitioner or to a hospital specialist. Other groups of patients who may need health care but do not demand it include homeless people and people with chronic mental illness.

Distinguishing between individual needs and the wider needs of the community is important in the planning and provision of local health services. If these needs are ignored then there is a danger of a top-down approach to providing health services, which relies too heavily on what a few people perceive to be the needs of the population rather than what they actually are.

**Summary points**

- Health needs assessment is the systematic approach to ensuring that the health service uses its resources to improve the health of the population in the most efficient way
- It involves epidemiological, qualitative, and comparative methods to describe health problems of a population; identify inequalities in health and access to services; and determine priorities for the most effective use of resources
- Health needs are those that can benefit from health care or from wider social and environmental changes
- Successful health needs assessments require a practical understanding of what is involved, the time and resources necessary to undertake assessments, and sufficient integration of the results into planning and commissioning of local services.
What is health needs assessment?

Health needs assessment is a new phrase to describe the development and refinement of well-established approaches to understanding the needs of a local population. In the 19th century, the first medical officers for health were responsible for assessing the needs of their local populations. More recently, in the 1970s, the Resource Allocation Working Party assessed relative health needs on the basis of standardised mortality ratios and socioeconomic deprivation in different populations, and it used this formula to recommend fairer redistribution of health service resources. The 1992 Health of the Nation initiative was a government attempt to assess national health needs and determine priorities for improving health. Health needs assessment has come to mean an objective and valid method of tailoring health services—an evidence-based approach to commissioning and planning health services.

Although health needs assessments have traditionally been undertaken by public health professionals looking at their local population, these local health needs should be paramount to all health professionals. Hospitals and primary care teams should both aim to develop services to match the needs of their local populations. Combining population needs assessment with personal knowledge of patients' needs may help to meet this goal.

Why has needs assessment become important?

The costs of health care are rising. Over the past 30 years expenditure on health care has risen much faster than the cost increases reported in other sectors of the economy, and health care is now one of the largest sectors in most developed countries. Medical advances and demographic changes will continue the upward pressure on costs.

At the same time, the resources available for health care are limited. Many people have inequitable access to adequate health care, and many governments are unable to provide such care universally. In addition, there is a large variation in availability and use of health care by geographical area and point of provision. Availability tends to be inversely related to the need of the population served.

Another force for change is consumerism. The expectations of members of the public have led to greater concerns about the quality of the services they receive—from access and equity to appropriateness and effectiveness.

These factors have triggered reforms of health services in both developed and developing countries. In Britain, these reforms resulted in the separation of the responsibility for financing health care from its provision and in the establishment of a purchasing role for health authorities and general practitioners. Health authorities had greater opportunities to try to tailor local services to their own populations, and the 1990 National Health Service Act required health authorities to assess health needs of their populations and to use these assessments to set priorities to improve the health of their local population. This has been reinforced by more recent work on inequalities in health, suggesting that health authorities should undertake "equity audits" to determine if healthcare resources are being used in accordance with need.

At a primary care level, through fundholding, locality commissioning, and total purchasing projects, general practitioners have become more central to strategic planning and development of health services. With this increased commissioning power has come the increased expectation from patients and politicians that decision making would reflect local and national priorities, promoting effective and equitable care on the basis of need. The Labour government has committed itself to ensuring access to treatment according to "need and need alone," and the key functions of primary care groups will be to plan, commission, and monitor local health services to meet identified local needs.

Needs

Doctors, sociologists, philosophers, and economists all have different views of what needs are. In recognition of the scarcity of resources available to meet these needs, health needs are often differentiated as needs, demands, and supply (fig 1).
Need in health care is commonly defined as the capacity to benefit. If health needs are to be identified then an effective intervention should be available to meet these needs and improve health. There will be no benefit from an intervention that is not effective or if there are no resources available.

Demand is what patients ask for; it is the needs that most doctors encounter. General practitioners have a key role as gatekeepers in controlling this demand, and waiting lists become a surrogate marker and an influence on this demand. Demand from patients for a service can depend on the characteristics of the patient or on the media's interest in the service. Demand can also be induced by supply: geographical variation in hospital admission rates is explained more by the supply of hospital beds than by indicators of mortality; referral rates of general practitioners owe more to the characteristics of individual doctors than to the health of their populations.

Supply is the health care provided. This will depend on the interests of health professionals, the priorities of politicians, and the amount of money available. National health technology assessment programmes have developed in recognition of the importance of assessing the supply of new services and treatments before their widespread introduction.

Need, demand, and supply overlap, and this relation is important to consider when assessing health needs (fig 2). Health needs incorporate the wider social and environmental determinants of health, such as deprivation, housing, diet, education, employment. This wider definition allows us to look beyond the confines of the medical model based on health services, to the wider influences on health (box). Health needs of a population will be constantly changing, and many will not be amenable to medical intervention.

Influences on health

- Environment: housing, education, socioeconomic status, pollution
- Behaviour: diet, smoking, exercise
- Genes: inherited health potential
Health care: including primary, secondary, and tertiary prevention

Health needs assessment

Assessment of health needs is not simply a process of listening to patients or relying on personal experience. It is a systematic method of identifying unmet health and healthcare needs of a population and making changes to meet these unmet needs. It involves an epidemiological and qualitative approach to determining priorities which incorporates clinical and cost effectiveness and patients’ perspectives. This approach must balance clinical, ethical, and economic considerations of need—that is, what should be done, what can be done, and what can be afforded.\(^{25}\)

Health needs assessment should not just be a method of measuring ill health, as this assumes that something can be done to tackle it. Incorporating the concept of a capacity to benefit introduces the importance of effectiveness of health interventions and attempts to make explicit what benefits are being pursued. Economists argue that the capacity to benefit is always going to be greater than available resources and that health needs assessment should also incorporate questions of priority setting,\(^{26}\) suggesting that many needs assessments are simply distractions from the difficult decisions of rationing.\(^{27}\)

For individual practices and health professionals, health needs assessment provides the opportunity for:

- Describing the patterns of disease in the local population and the differences from district, regional, or national disease patterns;
- Learning more about the needs and priorities of their patients and the local population;
- Highlighting the areas of unmet need and providing a clear set of objectives to work towards to meet these needs;
- Deciding rationally how to use resources to improve their local population's health in the most effective and efficient way;
- Influencing policy, interagency collaboration, or research and development priorities.

Importantly, health needs assessment also provides a method of monitoring and promoting equity in the provision and use of health services and addressing inequalities in health.\(^{28,29}\)

The importance of assessing health needs rather than reacting to health demands is widely recognised, and there are many examples of needs assessment in primary and secondary care.\(^{21,30,31}\)

There is no easy, quick-fix recipe for health needs assessment. Different topics will require different approaches. These may involve a combination of qualitative and quantitative research methods to collect original information, or adapting and transferring what is already known or available.

The stimulus for these assessments is often the personal interest of an individual or the availability of new funding for the development of health services. However, assessments should also be prompted by the importance of the health problem (in terms
of frequency, impact, or cost), the occurrence of critical incidents (the death of a patient turned away because the intensive care unit is full), evidence of effectiveness of an intervention, or publication of new research findings about the burden of a disease.

### Why do projects fail?

Some needs assessments have been more successful than others. Projects may fail for several reasons. \(^{31-33}\)

Firstly, what is involved in assessing health needs and how it should be undertaken may not be understood. Educational strategies can improve the understanding and necessary skills of health professionals, and local public health teams can provide valuable support and guidance. Common sense can be a more important asset than detailed methodological understanding. \(^{34}\) Starting with a simple and well-defined health topic can provide experience and encourage success.

Secondly, projects may fail because of a lack of time, resources, or commitment. The time and resources required can be small when shared among professionals in a team, and such sharing has the potential to be team building. Involving other organisations such as social services, local authorities, or voluntary groups can provide similar advantages and encourage multiagency working. Integration of needs assessment into audit and education can also provide better use of scarce time. Such investment of time and effort is likely to become increasingly necessary in order to justify extra resources.

A third reason is the failure to integrate the results with planning and purchasing intentions to ensure change. The planning cycle should begin with the assessment of need. \(^{28}\) Objectives must be clearly defined (box) and relevant stakeholders or agencies—be they primary care teams, hospital staff, health authorities, the voluntary sector, the media, regional executives, government, or patients—must be involved appropriately (fig 3). Although such an assessment may produce a multitude of needs, criteria can be used to prioritise these needs—for example, the importance of a problem in terms of frequency or severity, the evidence of effectiveness of interventions, or the feasibility for change. Needs assessments that do not include sufficient attention to implementation will become little more than academic or public relations exercises.

### Questions to ask when assessing health needs

- What is the problem?
- What is the size and nature of the problem?
- What are the current services?
- What do patients want?
- What are the most appropriate and effective (clinical and cost) solutions?
- What are the resource implications?
- What are the outcomes to evaluate change and the criteria to audit success?
This series will describe the different approaches to assessing health needs, how to identify topics for health needs assessments, which practical approaches can be taken, and how the results can be used effectively to improve the health of local populations. It will give examples of needs assessment from primary care but will also cover the specific problems of needs assessment for hard to reach groups. Many of the techniques of community appraisals used in needs assessment originate from experience in developing countries, and some of the lessons from this experience will be described.

**References**


2) Epidemiological issues in health needs assessment

1998;316:1379-1382 (2 May)

This is the second in a series of six articles describing approaches to and topics for health needs assessment, and how the results can be used effectively.

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The first article in this series explained the importance of health needs assessment in the context of planning and delivering health care to populations.1 It mentioned the "epidemiological approach" to health needs assessment—the traditional public health approach of describing need in relation to specific health problems using estimates of the incidence, prevalence, and other surrogates of health impact derived from studies carried out locally or elsewhere. This approach has been extended to the consideration, alongside these measures, of the ways in which existing services are delivered and the effectiveness and cost-effectiveness of interventions intended to meet the needs thus described (fig 1).2 This is a logical extension as there is little point in estimating the burden of ill health (except for determining priorities for future research) if nothing can be done to reduce it.

Epidemiology has been defined as “the study of the distribution and determinants of health-related states or events in specific populations and the application of this study to control of health problems.”3 It tends, for the most part, to use the "medical model" of health need, viewing need in terms of the occurrence of specific diseases and health-related states rather than client groups. Descriptive epidemiology (as opposed to analytical epidemiology—the investigation of the determinants of health-related states or events) describes the occurrence of disease in terms of person, place, and time:

- Person—who the affected people are (in terms of their age, sex, occupation, socioeconomic group, etc);
- Place—where they are when they get diseases and in what way prevalence and incidence vary geographically (locally, regionally, nationally, or internationally);
- Time—when people get diseases, whether this varies by, for example, season; and how disease occurrence is changing.

**Summary points**

- Epidemiological methods can be used to describe health needs in terms of the distribution of specific diseases.
- Although incidence and prevalence do not necessarily equate with need, they are both important in describing the population burden of disease.
- Specific epidemiological studies can be expensive and time consuming. Existing information from previous studies can be used to inform local needs if criteria for generalisability are met.
- Routine sources of health information can suffer from inaccuracy and inappropriateness, but they can provide valuable descriptions of health and healthcare use in a defined population over time.
Case definition

The usual starting point for any epidemiologically based needs assessment is the question, what is a case? Epidemiologists place great importance on case definition; yet, for a thorough health needs assessment, simple case definitions usually need to be expanded to include valid measures of severity.

Patients who are cases may possess relatively clear characteristics which separate them from those who are not cases. Examples are patients with the florid symptoms or signs of hypertension, asthma, or diabetes. However, in most conditions, including these three, individuals are encountered who are close to the borderline between normality and abnormality (fig 2). For these, internationally agreed criteria are required and are available.¹⁻⁶

Such criteria may seem arbitrary but are, or at least should be, based on the probability of the future occurrence of specified outcomes known to be associated with the relevant condition. They may be based on physical signs or symptoms, or on physiological or biochemical characteristics which need to be measured by appropriate and standardised tests—for example, valid and repeatable questionnaires or physiological or biochemical tests. The criteria may change from time to time as further knowledge accrues but should not vary from place to place if estimates of incidence and prevalence are to be at all generalisable.

Incidence and prevalence

Incidence and prevalence are measures fundamental to the science of epidemiology. Both of these require the estimation of the numerator—the number of new cases observed (in the case of incidence) or the number of cases present in a population (in the case of prevalence)—and the estimation of the denominator (the number of people in the population at risk). Incidence is a rate (it has a time dimension) and prevalence is a proportion that is measured at a point in time but does not have a time dimension.

Neither prevalence nor incidence necessarily equates with need, but knowledge of incidence and prevalence is usually an essential starting point for the assessment of need. Prevalence increases if incidence (or the rate of relapse) increases. It also increases if the mortality (or remission) decreases. The relation between these variables is best summarised as the "prevalence pool" concept (fig 3). Only a part of this prevalence pool may be visible at any one time if any proportion of the existing cases of a disease remains unrecognised. Unrecognised cases may be those at an early stage of development or may be the least severe.
In health needs assessment it may be important to estimate both incidence and prevalence. Incidence is particularly important for diseases or conditions that are of short duration (such as many communicable diseases) or for those for which a substantial amount of the healthcare input occurs shortly after diagnosis (myocardial infarction, for example). Prevalence is particularly important when the duration of disease is long—for example, asthma, diabetes, or multiple sclerosis. Several types of incidence and prevalence may be used in needs assessment:

- Stratum specific estimates: for example, age specific—for those in a given age group;
- Crude estimates: crudely calculated by summing the numerators over all strata (for example, all ages) and dividing by the denominator of the total population;
- Standardised estimates: taking into account that the populations being compared may differ in terms of age or another important attribute.

Standardised estimates may be derived by the direct or indirect method. In the direct method, the stratum specific estimates are taken from the population being standardised (this might be a town or locality) and applied to the stratum specific population figures of the standard population (that of the country, for example). The incidence or prevalence that would pertain in that population if those of the town or locality were applied to it can thus be calculated. In the indirect method, the process is reversed. The direct method is more usual and, in most cases, preferable. Using the indirect method is justified when the data items required for the direct method are not available and when small numbers in the stratum specific estimates in the population being standardised make them statistically unstable. The standardised mortality ratio is a ratio derived from the technique of indirect standardisation.

Generalisability

The NHS Management Executive set up the district health authority project in 1990 to support health authorities in their responsibility for assessing needs. This led to a series of reviews of healthcare needs assessment. The aim of these reviews was to give practical guidance to purchasers on moving from a service led healthcare system to a needs led healthcare system. They provided an "off the shelf" guide to population needs for important health topics such as asthma and stroke.

Such general information, however, is often disregarded on the grounds that "it's not like that here." Standard epidemiological tools and guidance are extremely important. However, existing techniques are often crude, particularly when measuring morbidity. In the absence of dedicated research, evidence of morbidity is often derived from mortality data, and when research is available, extrapolation to different populations can disguise underlying variations. Clearly, populations will differ in age, sex, socioeconomic and ethnic mix, and other attributes, or there may be other legitimate reasons for thinking that work carried out elsewhere is not applicable (use of an incorrect case definition, for example). Issues of generalisability can usually be divided into four broad areas:

- Case definitions—are they acceptable?
- The time since the study was carried out—is the information still timely?
- Is the study sound in other respects—methods of ascertainment (numerators) and demographic information (denominators)?
• Have the data been presented (or are they available) for the relevant strata of known confounders? (The term “confounders” is used here to encompass attributes which influence incidence or prevalence such as age, sex, and socioeconomic or ethnic group.)

Diabetes is an example of a condition for which knowledge of incidence and prevalence in relation to confounders is essential if any valid estimate of need is to be made. In general practices that are known to have identified their diabetic patients comprehensively, the prevalence of diabetes shows a close and totally expected relation with the proportion of the practice list aged 65 years and over. Thus, practices that are unsure of the completeness of their diabetes register can get some indication of how close they are to complete ascertainment by comparing their observed prevalence with that expected on the basis of this relation with age. However, this holds only if the practice population has a similar composition, in terms of ethnic origin, to the practices on which the initial observations have been made. Since it is known that the prevalence of diabetes varies between ethnic groups and, equally important, that the relation between prevalence and age is different in different ethnic groups, the ethnic composition of the practice needs to be taken into account.

**Undertaking an epidemiological survey**

Routine sources can provide only limited descriptions of disease; for more details, special surveys may be required. There are two main types of descriptive survey: prevalence (cross sectional) surveys and longitudinal surveys. These principles apply to all surveys, whether they are to describe disease or to provide patients’ perspectives.

- Surveys cost time and money. It is important to ensure that the information wanted is not available from routine sources
- There should be a clear aim for the survey. What disease, or risk factor, is being measured? What is the case definition? What is the population of interest?
- Good planning is needed. Staff and resources will be needed to carry out the survey and produce a report
- Sample size for the survey must be calculated. This is usually a balance between the need for precision (more precise estimates of incidence and prevalence require larger samples) and the resources and time available
- Recruitment of the sample must be considered. A sampling frame must be chosen and from this the sample selected randomly, systematically, or purposefully
- The survey instrument (a symptom questionnaire, quality of life measure, physiological measurement, or laboratory test) should be valid, reliable, and repeatable
- Steps should be taken to ensure a high response rate. Questionnaires should be piloted.

Although no convincing relation has been found between prevalence of diabetes and socioeconomic group, relations have been found between outcomes of diabetes and socioeconomic status: worse outcomes in the more disadvantaged groups are worse. For this reason, any estimate of need (“the ability to benefit from care”\(^2\)) for diabetes services must take socioeconomic status into account.
If the four aspects described above are satisfied then there is no reason why information from other localities cannot be applied to the local situation. To do so, with all reasonable care, can save precious resources which might otherwise be squandered in carrying out yet another health needs assessment on a given health problem merely because of a misplaced enthusiasm for locally derived data.

**Small populations**

"Locality based health needs assessment"—needs assessment dealing with populations smaller than district health authorities or their equivalents—has the advantage of allowing knowledge of the local scene to be used in planning local services. The use of local data, to the exclusion of data available from elsewhere, needs to be carefully considered. Apart from the cost implications of repeating locally what may have been done perfectly well elsewhere and can be extrapolated, statistical considerations need to be taken into account when assessing the frequency of relatively rare events. Even diseases that are common enough to be regarded as major public health problems (for example, carcinoma of the cervix) occur relatively infrequently in small populations.

### National sources of health information in the United Kingdom

**Population:**

- Census data can be used to describe populations at a district or electoral ward level by age, sex, ethnic group, or socioeconomic status
- Census information on variables such as unemployment and overcrowding can be used to produce indices of deprivation for electoral wards (Jarman index, Townsend score)

**Mortality:**

- National registration of deaths and causes of death provide comprehensive (though not always accurate) information on mortality
- Perinatal and infant mortality "rates" (they are not rates but proportions) are used for comparisons of the quality of health care
- Standardised mortality rates are used to compare local information on total mortality or mortality from specific causes

**Morbidity:**

- National and local registers provide data of variable accuracy. Registers exist for cancers (type of cancer, treatment, and survival); drug addiction; congenital abnormalities; specific diseases (such as diabetes and stroke)
- Communicable disease notification provides a source of information for local surveillance
- The Royal College of General Practitioners collects morbidity data from sample practices around Britain
- Prescribing data can be a valuable surrogate marker of morbidity
- Insurance companies can be an important source of health information in countries with systems based largely on insurance

**Health care:**

- Hospital activity data can provide information on hospital admissions, diagnoses, length of stay, operations performed, and patients' characteristics
Clinical indicators such as the health service indicators, can provide information on the comparative performance of hospitals and health authorities.

Three important issues need to be taken into account when deciding the minimum size of the population on which a needs assessment should be based: the frequency of occurrence (incidence, prevalence, or both); the impact of the condition on those who have it; and the cost implications of treatment.

For a rare condition with a high impact on patients and carers and with high treatment costs (childhood leukaemia, for example) a relatively large population needs to be studied for needs assessment to be worth while. The extent of need for common, low impact, low cost conditions can be assessed on smaller populations. For a single practice it would be unwise to assess need for conditions with a prevalence of less than 1%. So whereas a needs assessment for childhood leukaemia would be of limited value for a population of under one million, a needs assessment for mild depression could be based on the population served by a four doctor practice.

The NHS, in common with many other organisations, devotes more care and resources to collecting data than it does to using the data it collects. Routine reports of information are not as comprehensive in Britain as in some countries (such as Scandinavian countries) but they do exist, and it is surprising how infrequently they are used or even known about (box).

Unfortunately, "Murphy's law of information" plays a part at this stage: "The information we have is not what we want. The information we want is not what we need. The information we need is too expensive to collect." Despite that pessimistic view, routinely available data can be used, even if this entails some compromise in terms of precision. Used with survey information, routinely collected data can provide a powerful assessment of health needs and use of services.

Example of an epidemiological health needs assessment

Objective: To assess whether the use of health services by people with coronary heart disease reflected need. Setting: Health authority with a population of 530 000.

Methods: The prevalence of angina was determined by a validated postal questionnaire. Routine health data were collected on standardised mortality ratios; admission rates for coronary heart disease; and operation rates for angiography, angioplasty, and coronary heart disease. Census data were used to calculate Townsend scores to describe deprivation for electoral wards. Prevalence of angina and use of services were then compared with deprivation scores for each ward.

Results: Angina and mortality from heart disease was more common in wards with high deprivation scores. Treatment by revascularisation procedures was more common in more affluent wards.

Conclusion: The use of revascularisation services was not commensurate with need. Steps should be taken to ensure that health care is targeted at those who most need it.

References


3) Needs assessment: from theory to practice

This is the third in a series of six articles describing approaches to and topics for health needs assessment, and how the results can be used effectively.

Andrew Stevens, professor of public health, a Stephen Gillam, director, primary care programme. b

The purpose of needs assessment in health care is to gather the information required to bring about change beneficial to the health of the population. It is generally, but not universally, accepted that this takes place within the context of finite resources.1 "Health gain" can therefore be achieved by reallocating resources as a result of identifying four factors:

- Non-recipients of beneficial healthcare interventions (that is, unmet need);
- Recipients of ineffective health care (and releasing the resources for unmet need);
- Recipients of inefficient health care (and releasing resources for unmet need); and
- Recipients of inappropriate health care (for whom the outcomes could be improved).

The subjects of healthcare needs assessment are the populations and patients who are recipients or potential beneficiaries of health care. Populations, of course, include individual patients. The assessment of individuals’ needs may form part of the assessment of a population’s needs, but it may be costly and it risks ignoring individuals with needs who do not present themselves for health care. Table 1 shows the circumstances favouring individual needs assessment for planning purposes.

<table>
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<tr>
<th>Table 1 Factors determining basis for assessing healthcare needs</th>
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<tr>
<td><strong>Individual basis</strong></td>
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<tr>
<td>Case load</td>
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<tr>
<td>Cost per patient</td>
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<tr>
<td>Hidden patients</td>
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<td>Variability in case mix</td>
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The priority attached to different needs, whether of populations or of individuals, raises philosophical problems. For example, should the principal criterion be the benefit that could potentially be obtained for each individual, or the severity of their presenting condition?² In other words, should greater priority (a greater assessed need) be attributed to the need for surgery of a patient with...
early stage colorectal cancer or to the need for hospice care of a terminally ill lung cancer patient? In practice the former, the approach that favours the greater benefit, takes precedence in formal needs assessment, but not exclusively. In either case, cost enters the equation. Some marginal benefits cannot be afforded in a publicly funded system because of the other treatments and benefits that need to be sacrificed to fund them.

New practitioners of needs assessment are emerging. The New NHS white paper requires primary care groups to contribute to health authorities’ health improvement programmes, “helping to ensure that they reflect the perspectives of the local community and the experiences of local patients.” More general practitioners will therefore face the dilemmas that needs assessment is intended to tackle.

Summary points

- Healthcare need is the capacity to benefit from health care
- The assessment of population benefit includes a measure of epidemiology (how many) and of cost effectiveness (how good)
- Other sources, especially comparisons and corporate knowledge, can contribute usefully
- An optimal approach requires good information gathering, clinical involvement, and a close relation to the planning process

From theory to practice

Different frameworks for healthcare needs assessment have reflected different purposes as well as different times and contexts. The life cycle model, for example, is a framework which encourages needs assessors to think comprehensively about different population groups of different ages. It is an attractive model because of its simplicity, but it does not distinguish need and demand or emphasise the pivotal theme of “capacity to benefit.”

A particular purpose of healthcare needs assessment is the spatial allocation of resources. Geographical equity of regions, districts, and even localities (such as housing estates) can be addressed by global and surrogate measures of health, particularly deprivation indices and standardised mortality ratios. Measuring relative deprivation is a step forward from approaches that do not distinguish need from supply and demand, but relative deprivation cannot be used to specify precise needs for service planning: measuring deprivation indicates whether Burnley is less well resourced than Belgravia but does not help in deciding the number of coronary care beds needed in either.

The definition of “need as the capacity to benefit” represents a further advance because it can be directed at specific services. It has generated new practical approaches in an area of sometimes paralysing controversy. Four points apply to needs assessment undertaken both at the level of health authority and general practice:

- The population’s ability to benefit from health care equals the aggregate of individuals’ ability to benefit. For most health problems (but see table 1) this can be deduced more readily from epidemiological data than from clinical records.
- The ability to benefit does not mean that every outcome will be favourable, but rather that need implies potential benefit, which on average is effective.
- The benefit is not just a change in clinical status but can include reassurance, supportive care, and the relief of carers. The list of beneficiaries of care can extend beyond the patient to families and carers.
- Health care includes not just treatment but also prevention, diagnosis, continuing care, rehabilitation, and palliative care.

Such benefits are ideally assessed by an approach that combines epidemiological factors and cost effectiveness, supplemented by “corporate” and “comparative” methods. All of these methods include the enumeration of current services. But other
contemporary approaches to service related assessment of needs should be noted: not just population healthcare needs assessment but also social services assessments, individual healthcare needs assessment, participatory and Oregon-style planning, population and client group surveys, expert specialty recommendations, and clinical effectiveness research.\(^\text{10}\)

The usefulness of these approaches can be assessed with the following criteria:

- Is the needs assessment about populations or individuals?
- Is there a clear context of allocating scarce resources (are the needs assessed in the context of priority setting among competing needs)?
- Is the needs assessment exploratory or definitive (is the object to clarify what should be done or just to highlight problems that are accompanied by no obvious intervention)?
- Is the determination of the most important needs based on expert knowledge or participatory methods?

Table 2 shows how other approaches compare with population healthcare needs assessment on the basis of the capacity to benefit. In population healthcare needs assessment the concern is with the health of populations with a common condition or presentation—for example, all patients with diabetes (known or not known) on a practice’s list. It recognises that resources are finite and avoids focusing on advocacy for individual groups without considering competing priorities. It is definitive rather than exploratory in that client groups are considered together with actual interventions (this is not a feature of, say, some lifestyle or disability surveys), and the needs are determined by expert appraisal of the evidence rather than principally through public participation. However, any approach that contributes information on numbers in a particular group (incidence and prevalence), the effectiveness and cost effectiveness of interventions, and the distribution of current services and their costs will be useful in practice.

### Table 2 Different approaches to healthcare needs assessment\(^\text{10}\)

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Basis</th>
<th>Is resource scarcity clear?</th>
<th>Definitive or exploratory</th>
<th>Expert or participatory</th>
</tr>
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<tbody>
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<td>Definitive</td>
<td>Expert</td>
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<td>Definitive</td>
<td>Expert</td>
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<td>Both</td>
</tr>
<tr>
<td>Participatory planning</td>
<td>Population</td>
<td>Sometimes</td>
<td>Definitive</td>
<td>Participatory</td>
</tr>
<tr>
<td>Oregon-style planning</td>
<td>Population</td>
<td>Yes</td>
<td>Definitive</td>
<td>Both</td>
</tr>
<tr>
<td>Population surveys</td>
<td>Population</td>
<td>No</td>
<td>Exploratory</td>
<td>Expert</td>
</tr>
<tr>
<td>Client group surveys</td>
<td>Population</td>
<td>No</td>
<td>Exploratory</td>
<td>Both</td>
</tr>
<tr>
<td>Specialty recommendations</td>
<td>Population</td>
<td>No</td>
<td>Definitive</td>
<td>Expert</td>
</tr>
<tr>
<td>Effectiveness reviews</td>
<td>Population</td>
<td>Yes</td>
<td>Definitive</td>
<td>Expert</td>
</tr>
</tbody>
</table>

**Defining baseline services**

Measured needs only take on meaning in relation to the existing services. Needs assessment is about change, and it is essential to know what to change from as well as what to change to. Several steps are involved. Firstly, the service under consideration has to be disaggregated into meaningful units. For example, mental health can be split up into adult, elderly, child, forensic, substance abuse, etc. Adult mental health could then be further subdivided as services for long stay, short stay, day care, community treatment, and so forth. Each of these encompasses a variety of different interventions. There follows a decision on what to measure. Structural factors such as bed capacity, staffing levels, and costs provide a powerful starting point. Measurement of process (for example, throughput) and outcomes (for example, death rate) will have little meaning unless case mix and severity are well defined. A plausible mental health baseline service specification focusing on structure and cost is set out in table 3. The emphasis is on obtaining the information needed to summarise existing levels of service as succinctly as possible.\(^\text{11}\)
Table 3 Example of table of baseline services\textsuperscript{11}

<table>
<thead>
<tr>
<th>Resource name</th>
<th>Resource function</th>
<th>Capacity</th>
<th>Unit cost</th>
<th>Notes on quality and performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute ward A</td>
<td>Acute assessment</td>
<td>Beds</td>
<td>£1000/bed</td>
<td>Nurse morale problems</td>
</tr>
<tr>
<td>Community team B</td>
<td>Community support for mild or stable conditions</td>
<td>Places</td>
<td>£1000/place</td>
<td>Poor coordination with general practice</td>
</tr>
<tr>
<td>Long stay facility C</td>
<td>Long stay and dementia</td>
<td>Beds</td>
<td>£1000/bed</td>
<td>Being run down</td>
</tr>
</tbody>
</table>

Corporate approaches
The "corporate approach" involves the systematic collection of the knowledge and views of informants on healthcare services and needs. Valuable information is often available from health authority staff, provider clinicians, and general practitioners, as well as from users. The box lists possible informants. Although such an approach blurs the distinction between need and demand and between science and vested interest, the intimate, detailed knowledge of interested parties amassed over years might otherwise be overlooked. Furthermore, the corporate approach is essential if policies are to be sensitive to local circumstances. Eliciting local views is not the same as being bound by them. This approach allows sensitivity to local circumstances, particularly those consequent on historical provision. The unmet needs of discharged seriously mentally ill people from closed long stay hospitals or the absence of primary care for homeless groups may be uncovered only by speaking to people. Where cost effectiveness considerations are otherwise equal, local concerns may justifiably attach priorities to particular services. Furthermore, local experience and involvement will make any needs assessment easier to defend.

Corporate informants
- General practitioners
- Hospital doctors
- Nurses and professions allied to medicine
- Public health doctors
- Commissioning managers
- Trust managers
- Voluntary organisations
- Community health councils
- General public
- Patients (service users)

Comparative approaches
The "comparative approach" to needs assessment contrasts the services received by the population in one area with those received in other areas. If nothing else is known about the optimum service to be provided, there is at least reason for investigation if the level of service differs markedly from that provided elsewhere. Comparisons have proved to be powerful tools for investigating health services.\textsuperscript{12,13} For example, the need to raise renal dialysis and transplantation levels from 20 per million in the 1960s to 80 per million was indicated by comparison with European countries and subsequently confirmed epidemiologically.\textsuperscript{14} New performance indicator packages are being piloted in both primary and secondary care.\textsuperscript{15} Although they require sensitive interpretation, comparative process and outcome indicators may help identify deficiencies in provision of services.

Epidemiological and cost effectiveness approaches
The essence of needs assessment is an understanding of what is effective and for whom. Critical steps consist of:

- A clear statement of the population group whose needs are to be assessed (normally a group with a particular disease). In the case of a needs assessment for diabetic services, this might include people who have not yet been diagnosed; in the case of substance misuse it would include past, present, and potential misusers;
Identifying subcategories of this population (perhaps “health benefit groups”) with particular service needs. People with insulin dependent diabetes would be distinguished from those with non-insulin dependent diabetes; current, dependent substance misusers would be distinguished from intoxicated misusers, those with comorbidities, those in recovery (at risk of relapse), and those at risk of becoming new users;

- Setting out the prevalence and incidence of the subcategories: how many of each are there?
- Setting out the current services available (the baseline) — all services whether in primary care, secondary care, or elsewhere;
- Identifying the effectiveness and cost effectiveness of interventions and the associated services — the essence of evidence based health care; and
- Setting out a model of care that apportions relative priorities. 9 10

As a general rule, establishing the effectiveness of an intervention must be the most important step. There is little point in counting potential beneficiaries for an intervention which is of no benefit. Most challenging of all is the task of apportioning relative priority to different services and recipients. Cost effectiveness must be taken into consideration. The use of unitary cost-utility measures can be helpful if these are available, and decision matrices render decision making more explicit. However, flexibility around patients’ particular circumstances is often required.

Managing the task

Several challenges are commonly encountered in understanding needs assessment. Firstly, the mosaic of information required for needs assessment reflects its key components: the services already in existence, the prevalence and incidence of client groups (sub-categorised appropriately), and the effectiveness of interventions. The evidence based medicine movement has meant that information on effectiveness can more easily be obtained, 16 17 but this is not true for information on epidemiology or services provided. Good quality local data on the structure and utilisation of health services can be surprisingly difficult to obtain. The absence of common disease definitions, common classification systems, and compatible software — and the partial recording of activity — limits the value of many databases. 18

The triangulation of information sources is therefore critical. Useful information can be either local or national, either numerical or textual, and collected either routinely or ad hoc. The figure sets out key items for the needs assessors. 19 The task is greatly aided by skilled librarians with access to a basic range of texts and databases. National sources of epidemiological and effectiveness data offer assessors of healthcare needs a firm starting point for their work.

A second challenge is the involvement of health professionals in healthcare needs assessment. The traditionally individualistic approach of doctors in particular may be difficult to reconcile with the utilitarian approach of planners with a population focus. This focus implies a fundamental reappraisal of the doctor’s role and the balance of power within the doctor-patient relationship. 20 It is
also important not to neglect the contribution of other health professionals. For example, in primary care much information is collected by community nursing staff, and health visitors’ skills in particular are easily overlooked. Even where doctors and nurses have a population focus, needs assessment has opportunity costs; not everyone can devote time to it. At the very least, target efficiency —directing services to the people who will potentially benefit the most —requires doctors’ involvement.

Thirdly, needs assessment is futile if it does not result in improved services to patients. A key to successful needs assessment is the proper understanding of how it is related to the rest of the planning process. Too much needs assessment is divorced from managers’ deadlines and priorities. If the information and recommendations produced are not timely, they will not be useful. The results of needs assessment therefore need to be encapsulated in strategies or business plans. These need clear definitions of objectives: describing what needs to be done, by whom, and by when. The key to effecting change is an understanding of the opportunities that may facilitate and the obstacles that may obstruct what is being attempted —knowing which “levers” to use. An understanding of the sources of finance, their planning cycles, and the criteria used to fund new initiatives is essential. Health authorities and health boards clearly indicate the timing of development bids and the structure of applications they wish to be submitted.

A fourth challenge is to ensure that needs assessment is not just effective but efficient and cost effective. Little is known of the cost effectiveness of needs assessment, but at least one survey found that it led to service change at little cost. Evaluation of different purchasing models should help clarify the population sizes for which needs assessment for different services is most efficiently undertaken.

Conclusion

In practice, although needs assessment represents an amalgam of epidemiology, economics, and values, it has to be turned into a practical tool. But making needs assessment practical can have two unfortunate effects. Firstly, it is unhelpful to see the outcome of needs assessment as a document —the culmination of a series of easily defined, finite steps. Rather, needs assessment is an iterative, sometimes messy, process that may serve several different political purposes. The most important of these is to develop a consensus among planners, managers, and clinicians regarding priorities for service development. Secondly, needs assessment is too easily seen as some arcane preserve of public health specialists. The technical skills required can be exaggerated. Basic numeracy and common sense are the most important prerequisites.

The current approaches to needs assessment may be limited by time and context. Much needs assessment activity was stimulated by the advent of an internal market and by doubts about the cost effectiveness and appropriateness of care. Health authorities and general practitioners in their role as purchasers require detailed service specification for the first time. However, with increasing evidence of the equivocal efficacy of many healthcare interventions, delayed uptake of effective health care, unexplained geographical variations, and rising costs, the concern with capacity to benefit within finite resources is unlikely to wane. The rhetoric may change, but the demand for increasingly sophisticated approaches to needs assessment will intensify.

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4) Assessment in primary care: practical issues and possible approaches

This is the fourth in a series of six articles describing approaches to and topics for health needs assessment, and how the results can be used effectively.

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This article is a practical guide to help primary care groups (as set out in the NHS white papers 1 2 ) and also individual practice teams assess the health needs of their respective populations before providing or commissioning services to meet these needs. Historically, much service provision has been service led rather than needs led, provided as before and at the convenience of providers rather than patients. The needs of patients are now accepted as being central to the NHS. An explicit framework is needed to help assess needs more systematically, to demystify the process, and to help prioritise and action changes. 3 This paper outlines an approach that is feasible for individual practices, groups of practices, and populations of around 100,000 people (typically the size of the new primary care groups described in the white paper).

Summary points

- A practical strategy for assessing local health needs is required
- This approach uses practice held data, routinely available local statistics, a patient/public consultation exercise, and (possibly) a postal survey to gain various perspectives on need
- Unless specific, useful summary data are obtained, details will obscure the larger picture
- Stages in this strategy are to collate the information, assess priorities, and plan and evaluate changes
- Time and resources must be available at practice and locality level, but many important health needs cannot be met by health services alone

Do we get involved with wider health needs or just health service needs?

Health professionals understandably tend to think of health needs in terms of services they can provide. Patients may have different ideas about what affects their health. This might include getting a job, having a roof over their head, or having a bus route which makes getting to see the doctor easy. A group of practices may decide that they do not have the time and resources to consider these types of needs, and they may feel even less confident about being able to do anything about such needs. But if primary care has the aim of improving the health status of individuals as well as providing health services, such factors must at least be identified for action by someone else. Lalonde, when minister of health in Canada, emphasised the importance of lifestyles and the environment on health as well as the influences of human biology and health-care provision. 4 Thus this paper embraces needs for health—needs for services and more general needs.
Levels, approaches, and methods

The process of health needs assessment can be carried out at different levels, from international down to individual patient. Different approaches can be used at each level (from global to specific diseases).

Levels

Needs assessment can be carried out at various levels:

- **International**—By the World Health Organisation, for example
- **National**—The advantage of tackling some national priorities locally (such as mental health) is that it may be easier for health authorities or boards to fund identified gaps in services. But remember that the most common complaints presented by patients—stress, arthritis, and dyspepsia—have never been identified as national priorities
- **Regional**—the need for a liver transplantation service could be assessed at this level
- **Health authority or board level**—The needs for neonatal care, obstetric care, or dietetics may be assessed at this level
- **Locality**—The creation of primary care groups will lead to increasing importance for needs assessment to be undertaken at this level. Generally, larger populations will produce more robust results than single practices. There is also no need for every practice to carry out similar studies when it is unlikely that there will be different needs between practices. Issues suitable for tackling at this level might include unwanted pregnancy, dental caries, inequalities in service provision of community nursing
- **Practice specific**—It is worth thinking about a single piece of needs assessment work where a practice is relatively large and is situated in an area of particular need. Issues such as mental health and drug addiction may be particularly relevant
- **Small neighbourhood**—Some practices have a group of patients who live in a well defined disadvantaged area. Such an area can usefully be targeted
- **Individual**—used daily in consultations by general practitioners and nurses.

Approaches

When using a global approach, get an initial overview of the health and social needs of the population group, then identify which of a variety of interventions might best improve the health and wellbeing of patients. Issues relating to the wider determinants of health can be taken to the relevant agencies for action (in London and in Edinburgh, bus routes have been changed and play areas developed).

A focused approach can centre on:

- A specialty (mental health, for example)
- A disease (epilepsy, Alzheimer’s disease, cerebral palsy, or diabetes)
- A client group (elderly people, single mothers, the unemployed, farmers)
- Groups waiting for interventions (people awaiting an operation or physiotherapy)
- Vulnerable groups of patients (ethnic minorities, etc)
- Patients who are socially deprived, to address issues of inequity.

Methods of assessing needs

Different information sources and methods of investigating give complementary insights into health needs generally. Practitioners should concentrate on gathering the information that will give them the most useful insights, rather than on collecting all sorts of information that might turn out to be useful. A locally appropriate mix of methods can use data from various sources: information
held by the practice, computer records, and "soft" information from all members of primary healthcare teams. These sorts of data are good for assessing ongoing physical problems.

Local statistics are routinely available from health authorities or health boards, hospitals, and the census. Public consultation exercises, which can utilise focus groups, rapid appraisal, or other methods of interacting with local people, are good for uncovering problems relating to drug abuse, HIV, and social issues.

A postal survey may be worth considering to provide data about acute illness in the community and suggestions for changes to services. A covering letter by the patient's general practitioner may improve the return rate.

Detailed guidance on practical aspects is now available, including a workbook and a "really rough guide."7-11

### Involving others

Most approaches can be undertaken by an individual or a group. Although group work is more difficult to organise, there are major benefits. Group members who work in the community, such as health visitors and district nurses, have valuable knowledge of local needs and will feel an ownership of the results if they have been involved. Practice staff involved may require additional resources or locum cover. Public health and primary care can contribute complementary skills and insights at every level.

Any practice or group of practices needs to decide how the public will be involved at an early stage. Methods for involving the public have been described by Mays et al.12

Consultants working in hospital or community trusts usually have a clear picture of the needs for their particular service. This can be a rich source of help, advice, and information. Combining specialist expertise and the experience of generalists can produce valuable information. Other service providers should also be considered, such as hospices and other agencies both in the statutory and voluntary sector.

Depending on funding, some aspects of needs assessment may be carried out by an external agency if the relevant skills or time is not available (for example, to carry out focus groups or a postal survey).

### Defining the problem or area to be assessed

Most practices and even locality groups will have little time to devote to needs assessment, and therefore it is important to target any effort in the most productive way. A first needs assessment project needs to deliver rapid success to stimulate those involved to progress further. In a few practices—perhaps in an area of inner city deprivation—the issues that need to be tackled will be very obvious, but for most practices the priorities will vary depending on the demographic profile, common illnesses, and social needs of the practice population. Consider the frequency, impact, and costs of different diseases. Priorities might be defined with the following questions:

- Is there a realistic chance of achieving change?
- Is the cost of undertaking the work proportional to the likely benefits?
- What are the priorities being suggested by other agencies—the health authority or health board, social services?
- Does the practice or primary care group wish to look at issues that are not directly under their control such as housing and transport?

### Core practice data

- Age-sex profile in 5 year bands for male and female patients
- Prescribing details:
  - Repeat prescribing rates from practice computer
Collated prescribing figures (PACT or Scottish Prescribing Analysis)

- Prevalence of some specific chronic disease (for example, ischaemic heart disease, chronic obstructive airways disease, asthma, epilepsy, psychosis, thyroid disease, hypertension, diabetes)
- Data from practice’s payment details:
  - Percentage of patients attracting deprivation payments
  - Family planning uptake
  - Temporary residents
  - Obstetric care and other item of service payments
    - Health promotion and disease prevention data:
      - Smoking, alcohol consumption, substance misuse, body mass index
      - Immunisation coverage (2 and 5 year olds)
      - Cervical cytology coverage
        - Contacts with general practitioners:
          - Surgery consultation rate per 1000 registered patients per year
          - House call rate per 1000
          - Out of hours visits per 1000
        - Knowledge (mostly implicit) of local health needs:
          - Health visitor: practice profile, breast feeding rates, use of other agencies
          - District nurse: workload details, observations in patients' homes
          - Practice nurse: workload details (for example, influenza coverage rate)
          - Receptionists: patients' perceptions, availability of appointments
            - Deaths — causes, place of death, preventable factors
            - Turnover of patients
            - Other sources — suggestions box, patient participation group
            - Notes search may yield:
              - Incidence of acute illnesses and symptoms presenting
              - Telephone ownership (percentage)
              - Unemployment rate, domestic problems documented

If reliable data (on use of investigations, referrals, etc) are available from other sources, use these data rather than duplicate work in the practice for the following:
Stage 1: Collect routine practice information

Routine data from general practices can highlight needs that are dealt with in primary care. The box lists data that give an overall practice perspective on needs: ask your practice manager to collect as much as is reasonably available. Some computer software (such as GPASS in Scotland) can generate a practice profile automatically. This is especially useful for comparing practice data with other practices, or for collating data for groups of practices. Several networks exist in different parts of the country to optimise the use of such data.\(^\text{13}\)

**Hospital, community trust, and census data**

*Inpatient data*

- Ten most frequent diagnoses made at hospital inpatient discharge (rates per 1000 registered patients), tabulated in descending order. (ICD-10 codes to three digits are recommended; transfers are excluded; patients with multiple discharges from the same hospital, using the same facility and with the same diagnosis, are counted only once.)
- Elective admission (rate per 1000 residents)
- Non-elective admission (rate per 1000 residents)
- Mean waiting time (days)
- Ten most frequent day case diagnoses (per 1000 patients), tabulated in descending order of frequency
- Top three day case procedures (per 1000 patients), in descending order of frequency

*Outpatient data*

- Outpatient referral rate per 1000 residents
- Referral rates for five most used specialties, tabulated in descending frequency
- Mean waiting time (days)
- Attendances at accident and emergency department (per 1000 patients)

*Obstetric data*

- Births (rate per 1000 registered patients)

*Community data*

- District nursing visits (per 1000 patients per year)
- Health visitors, visits, and clinic attendances (per 1000 patients per year)

*Investigations*

- Use of investigations (per 1000 patients per year) for microbiology, haematology, biochemistry, radiology, electrocardiography
Referrals

- Physiotherapy (per 1000 patients per year, clinic and domiciliary)
- Chiropody (per 1000 patients per year, clinic and domiciliary)
- Occupational therapy (per 1000 patients per year)

Census

- Percentage of residents with limiting long term illness
- Demographic profile, in 5 year bands
- Unemployment rates (%) for men and women
- Percentage of house owners
- Percentage of car owners
- Percentage of households with lone parents

Stage 2: Collect hospital, community trust, and census data

Standard "routine" hospital utilisation data does not routinely get fed back to practices. Thus the knowledge and understanding that most general practitioners have of the hospital services that their group of patients receive is limited. Although routinely collected clinical data may contain inaccuracies, the quality of some databases has substantially improved. With the help of local public health departments, detailed hospital utilisation can now be compared between practices and localities. Such data must be interpreted carefully, as demand and supply often have more influence on hospital usage than does need. Use of hospital services may not be a proxy for morbidity in the community. The box on the next page lists the variables which general practitioners working in Edinburgh's south east locality found most informative for understanding the current usage of hospital services by individual practices.

Health authorities and boards also have a range of census information, available at small area level. This information is extremely useful to highlight social inequities at small area level such as in an underprivileged housing estate. Jarman and Townsend scores may be available, but at practice or locality level the six census categories listed in the box may be sufficient to give a view of social need. Unless you request very specific, interesting summary data from the health authority or board you will be swamped with too much detail, which will obscure the larger picture and be too lengthy for general practitioners to absorb.

Focus groups

- Facilitated discussion groups that allow the members of the target population to express ideas spontaneously
- Can give useful insights into perceived needs, quality of services, and understandings of health issue
- Can raise issues that are important to patients
- Information gained is not quantifiable
- Facilitators need some training
- A variety of groups may be necessary to be representative in some situations

Practical points:

- Optimum size is 8-12 participants
- Facilitator introduces topics for discussion
- Proceedings are recorded using a tape recorder and later transcribed, or notes are taken, preferably by another facilitator
At practice level such data can be presented at a practice planning meeting and inform the practice's annual business plan. In southeast Edinburgh locality, the above data were fed back at a meeting to which one general practitioner from each practice was invited. Protected time—and hence a good attendance—was gained making a fee from the general practice fundholding management allowance available to all attendees. After the abolition of fundholding, similar exercises should be possible, using the management allowances associated with the new primary care groups. This data highlighted considerable variations in the use of inpatient services, outpatient services, and community services such as nursing and chiropody, with the two most common reasons for admission (termination of pregnancy and dental caries) both preventable. The general practitioners, after presentation of the data and discussion, left written comments about what they found most interesting about their practice, suggestions to improve or extend the data, and how the data could be used by individual practices and the locality. Subsequent meetings are planned to gain other perspectives of need in the locality from other data sources.

Stage 3: Gaining public involvement
Health professionals define “needs” in terms of services that they can provide, whereas patients may have a different perception of what would make them healthier: a job, a bus route to the hospital, or some advice on benefits, for example. Thus interaction and input from patients and the public is vital to gain an “honest consumer perspective.” It can be obtained through:

- Interviews with patients
- Informal discussions with, for example, voluntary groups, community health council
- Suggestion boxes
- Complaints procedures
- Health forum
- Focus groups (with elderly or diabetic patients, for example; see box)
- Rapid appraisal (see box, next page).

Stage 4: Undertake (or use an existing) postal survey
Surveys to assist local decision making must be modestly defined and use a mixture of lay and medical concepts. Computerised search and mail merge facilities allow most practices to send questionnaires (with covering letters and reply paid envelopes) to specific patient groups. A well conducted postal survey of a representative sample can give a reliable estimate of the true burden of morbidity in the population, and may inform contract specification. Assistance will normally be required to select an instrument or to design one, and with sampling and data analysis. Various validated instruments for generic and disease specific surveys are available.20 Questions concerning the areas outlined in the box on the next page may be especially relevant, as such data may not be obtained easily from other sources.

Rapid appraisal
A team, ideally with a mixture of professional insights, gathers data about both needs and resources in the area under study from:

- Interviews with key informants (individuals with knowledge of the community) and patients
- Available documents about the neighbourhood or community
- Observations made inside homes and in the neighbourhood

Practical points:

- Use the framework of an information pyramid18,19 to guide collection and analysis
- Collate the needs, priorities, and solutions perceived in the community for each box of the information pyramid
Consider facilitating change in primary care services, commissioning of secondary care, and local advocacy to improve wider determinants of health

Areas for questionnaire surveys

- Acute illnesses and experience of common symptoms
- Use of health services over the past 6 or 12 months
- Patients’ satisfaction
- Perceived need for current and potential services
- Specific concerns and worries that may affect health
- Specific questions for people with specific long term health problems or carers
- Chronic illness (may not be necessary if data obtained already):
  - Any long term illness
  - Several marker conditions (for example, hypertension, back pain)
  - Consider a general health status instrument (SF-36, SF-12)
  - Consider a disease specific instrument
  - (Consider checking a sample of medical records from non-respondents.)

Stage 5: Collation of the information from the different sources

At practice level

Present the major findings of each method to a meeting attended by as many of the practice team as possible, and discuss what changes should be made to the established work patterns and services the practice offers. New initiatives identified should be prioritised and incorporated in the practice's business plan for the coming year. Feedback can be given to the local hospitals and community trusts if relevant.

At locality level (primary care group)

As the stages of the needs assessment may take several months, present the major findings of each method as they become available. Protected time is vital for practice representatives to study the information together; starting to get a feel for the needs of the locality as the complementary data builds up. A specific meeting, possibly facilitated by the local public health department, will be important to prioritise the suggestions raised by the various sorts of data. Techniques for prioritising needs include the nominal group technique, and use of a ranking matrix can give useful structure to such meetings. With the nominal group technique, needs or interventions are listed, discussed, then ranked by each participant until an agreed level of consensus is reached. This encourages debate, and quick decisions can be made. To use a ranking matrix, criteria for priority interventions are defined, such as potential to improve health, capacity to implement, and equity implications. Participants score each potential intervention for each criterion, and the scores are totalled.

Health needs assessment is a cyclical process. Needs change over time; evaluating how well needs have been met will bring you back to assessing the needs that have not been met by your action.

How realistic is assessment of health needs in primary care?

Lack of planning time and the pressure to respond to the immediate needs of patients has to date prevented needs assessment in primary care. The fundholding initiative, emphasising efficient purchasing of services, has not championed needs assessment and has largely ignored aspects of health needs not related to the health service. The advent of locality commissioning and the creation
of primary care groups will now allow some general practitioners protected time for needs assessment. This strategic work is realistic and possible and has the potential to make primary care more effective at improving health by targeting available resources. But resources, training, and liaison with public health physicians will be necessary for this to work.

References


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**This article has been cited by other articles:**


5) Whose priorities? Listening to users and the public

*BMJ* 1998;316:1668-1670 (30 May)

This is the fifth in a series of six articles describing approaches to and topics for health needs assessment, and how the results can be used effectively. Series editor: John Wright

Joanne Jordan, senior research fellow, a Therese Dowswell, senior research fellow, b Stephen Harrison, reader in health policy and politics, c Richard J Lilford, professor of health services research, d Maggie Mort, senior research fellow. e

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External inputs to health needs assessment and the prioritisation of health services may be seen as one means of addressing the "democratic deficit" in the NHS. Such external inputs can be discussed on three levels. The first concerns the formal governance arrangements of the service and encompasses questions about electing health authority members and transferring the NHS purchasing function to local government authorities 1 2 ; it is not discussed further here. The second level of input may be characterised by arrangements for consultation with the general public, whether or not they happen to be current patients or users. The third level concerns the consultation of current users about needs and priorities. The importance of these two levels was recently recognised in a new white paper.3

**Summary points**

- Although health authorities have increased local consultation, its quality remains dubious, with greatest emphasis on one-off consultation exercises
- Information gained through public consultation may either be marginalised or incorporated according to professional priorities
Consultation of the public

The nature and extent of public involvement in determining health needs has increased, but the quality of consultation remains questionable. Some health authorities have established ongoing consultation procedures, including citizens' juries, large scale postal panels, and smaller face to face panels, but most consultation has consisted of one-off surveys of the public or consultation with local user groups. Most authorities have no provisions for ongoing means of consultation.

These approaches may be classified according to two simple dimensions. One dimension relates to whether respondents to the consultation exercise were provided with any information, and the second relates to whether respondents were able to engage in any discussion or deliberation in arriving at their views. These dimensions define the matrix shown in the box.

Citizens' juries and similar panels of members of the public place respondents in the situation where they are informed about the issues and choices at stake and must deliberate with others to arrive at a recommendation. Such mechanisms attempt to collect the views of the public not necessarily as they are, but as they might be if information and the opportunity for discussion are available. Diametrically opposed is an approach that seeks to consult the public as it is, usually on the basis of statistically representative sampling. Such opinion surveys collect data from a generally uninformed public and do not encourage deliberation. The other two cells in the matrix are hybrids: focus groups encourage discussion of uninformed opinion, and in a few cases attempts have been made to provide a written briefing to survey respondents.

Either construction of the public as uninformed and undeliberating, or as informed and deliberating is open to objection, and of course any such objection can be used by NHS "insiders" as a pretext for ignoring or overriding the outcomes of consultation. The organisers of consultation exercises can help to produce the outcomes that they prefer by their choice of questions, though this can be avoided through involving the public in the formulation of the inquiry.

Some studies have found that participants on juries and panels have been satisfied with their experience and think that ordinary people can participate effectively in such exercises. Other research has found that respondents to opinion surveys are reluctant to accept a public role in determining priorities for health care. This suggests that mechanisms with informed and deliberated components may enhance participation when the aim is to produce substantive recommendations.

Responding to user groups

When health authorities have opted to involve existing user groups, it is because they have been influenced by legislative change and occasionally by strong personal commitment to user led services and have accepted the groups as legitimate stakeholders in healthcare decision making. Often, a strong feature of this recognition is officials' need for better information about existing services and about needs and priorities identified by the groups. When it is recognised that managers and professionals do not necessarily know best, user groups are seen as excellent conduits of information.

Even so, officials can be quick to qualify and circumscribe the influence of user groups, typically through questioning their "representativeness." This ambivalence is part of a more encompassing approach in which officials are able to undermine the legitimacy of groups, should the perceived need arise, while at the same time using the user groups' views in their own negotiations with other officials.

Local consultation in primary care

Attention has been most keenly focused on the need and opportunity for local consultation within health authorities, so it is no surprise that most initiatives have occurred at this level. Relatively little attention has been paid to local consultation specifically in...
primary care. The increasing role of primary care in purchasing, and most likely in future locality based commissioning of health services, makes it necessary to determine and respond to specifically local needs.

These developments set up the appropriateness of local health needs assessment as a basis of purchasing and commissioning, but they do not in themselves require local participation in such assessment. Many of the ways of assessing the health needs of a local population do not entail going anywhere near the population itself. The remainder of this section therefore discusses why primary care practitioners should involve the local community in decision making about healthcare provisioning, and importantly, considers the obstacles to such participation.

Two related issues bring into question the assumption that general practitioners are in a position to act as proxies for patients’ health needs: firstly, the evidence on differing perceptions of doctors and patients, and secondly, the disparity between demand and needs. Taken together, these highlight the danger of basing knowledge about the distribution of health (need) in a community solely on experience of general practice. Many health professionals, including general practitioners, see the proactive seeking out of need as secondary to a primary care responsibility for individual demand, and they see knowledge held by people living locally as “inferior” to that generated by clinical observation and diagnosis. Most illnesses, though, do not lead to a medical consultation, so professional knowledge cannot be assumed to reflect the experience of individual patients, and presentation at surgery may best be understood as one expression of demand. One way of filling gaps in understanding is to consult the local community.

Providing for equity

The issue of equity in health (provision) also makes it incumbent to move beyond a model of primary care that is based on professional response to demand—to a model that recognises the importance of responding to need that is otherwise unidentified. There is increasing evidence that the distribution and degree of inequality in economic welfare has a direct impact on health. Local participation in healthcare decision making can run the danger of increasing this inequality by allowing the members of the public who are most able to register their demands or needs to do so at the expense of the less articulate; nevertheless, if participation is handled appropriately, previously marginalised groups can be provided with a voice and can be involved in decision making.

Methods of public consultation

- **Citizens’ juries**—Participants are selected as representatives of public or local opinion. Juries sit for a specified length of time, during which they are presented with information to help in decision making. Typically, experts give evidence and jurors have an opportunity to ask questions or debate relevant issues.
- **User consultation panels**—Consist of local people selected as representative of the locality or population. Typically, members are rotated to ensure that a broad range of views is heard. Topics for consideration are decided in advance and members are presented with relevant information to encourage informed discussion. Meetings are often facilitated by a moderator.
- **Focus groups**—Typically, semistructured discussion groups of 6-8 participants led by a moderator, with focus on specific topics. Debate and discussion are encouraged.
- **Questionnaire surveys**—Can be postal or distributed (in the surgery, for example). This structured or systematic means of data collection allows information to be collected from a large sample of respondents and the relation between variables to be examined. Most appropriate when the issues relevant to the topic being investigated are already known in some detail.
- **Opinion surveys of standing panels**—Standing panels are large, sociologically representative samples (typically 1000 or more) of a the population in a health authority; they are surveyed at intervals on matters of concern to the authority. There is usually a replacement policy aimed at ensuring that individuals do not serve on the panel indefinitely.
Current potential for consultation in primary care

What scope exists for local consultation under current healthcare policy and organisation? As already mentioned, problems arise from the fact that not only is primary health care essentially demand driven but this demand is arbitrarily divided into practice specific populations which often do not correspond to naturally occurring geographical localities and populations. Professional and official thinking therefore needs to acknowledge in both the organisation and funding of primary care the appropriateness of responding to the needs of the local (as distinct from the practice) population.

The poor understanding and limited uptake of local consultation within primary care arises partly from the absence of relevant training—which makes an inherently challenging activity even more difficult. Working with groups representing different community interests demands considerable skills and flexibility, and health professionals are currently poorly prepared for this. Local people may not be used to having their opinions invited, let alone being asked to take a more active role. One-off consultation initiatives are thus likely to have limited benefit, and they may work against longer term effectiveness, which depends on proper structures and mechanisms for sustained, meaningful communication and action.

There is already considerable scope for community based health needs assessment within primary care. Members of the wider primary healthcare team are already in touch with local networks, including resident's associations, mother and toddler groups, schools, and other voluntary organisations. Community nurses have been producing community profiles, which could be used to develop stronger links with the community. The spread of appropriate knowledge and skills and the practical need to divide any workload makes it vital to involve the whole primary care team, and such involvement is in line with the underlying general ethos of full participation in healthcare decision making.

Reconciling conflicting needs

One overriding issue remains. Comprehensive health needs assessment is likely to produce different, potentially conflicting needs. How are these different priorities, views, and opinions to be weighed against one another in order to avoid a position of stalemate and to effect positive change? Available suggestions may differ, but academic contributors and decision makers alike are acutely aware of resource limitations and their implications for meeting the full range of need identified through any health needs assessment process. There are no easy answers, but with regard to local involvement at least it is clear that people must be involved in identifying need and also in prioritising and responding to these needs.

There is no doubt that the concept and practice of local participation in health needs assessment is particularly challenging. Although there are no models for how to go about it and there are a number of potential obstacles, there is already considerable potential for existing arrangements to be extended to incorporate local participation. While it has been argued that the recent policy obsession with needs assessment has been prompted by a desire to reduce public expenditure, this should not detract from the possibility of using needs assessment, particularly that with community involvement, as a means of not only promoting good health but reducing inequalities in its distribution.
References


Response - Health needs assessment is not required for priority setting

EDITOR — The series of articles on health needs assessment provided insights into how the approach could be used to describe health problems in populations and to identify inequalities in health and access to services. The authors of the articles failed to recognise, however, that prioritising healthcare services on the basis of need can lead to inefficient use of resources.

Allocating finite healthcare resources according to the total amount of ill health in the population — whether this is measured by lives lost, morbidity, or any other agreed measure of need — overlooks the potential for patients to benefit from healthcare interventions and ignores the costs of those interventions. How, for example, would an epidemiologically driven approach prioritise healthcare services if conditions with great need (however defined) were not amenable to treatment and conditions with less need were amenable to an array of low cost, effective treatments? Needs assessment cannot form the basis of an efficient strategy for planning and purchasing health services.

The economic approach offers a more satisfactory framework for prioritising healthcare services. It estimates the incremental costs and benefits of altering the existing balance of expenditure between healthcare programmes, independent of any changes in the overall health budget. It does have limitations, not least the paucity of adequate data on the costs and benefits of healthcare interventions with which to make strategic decisions and disagreements about the merits of alternative measures of health benefit (for example, the quality adjusted life year and the healthy year equivalent). These limitations, however, should not distract from the appeal of an approach that aims to maximise health gains within available resources.

The proponents of needs assessment might argue that an understanding of the distribution of severity of health problems within the population is required, even where maximising quality adjusted life years or healthy year equivalents is the agreed objective. With this understanding the incremental cost per unit of health gain can be estimated at each level of unmet need. Even this view, however, cannot be accepted uncritically. For most services, unmet need is so great that gain in quality adjusted life years or healthy year equivalents can be assumed to remain constant over the range of any marginal increase in the provision of services. Moreover, the economic approach takes existing expenditure patterns as the starting point and uses evidence from formal and informal sources to examine the effects of small changes to those patterns.

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Health Care Needs Assessment: The Epidemiologically Based Needs Assessment Reviews

Ed Andrew Stevens, James Raftery adcliffe, £95, pp 1311 (2 vols) ISBN 1-85775-047-0

The creation of a market in health care - separating the commissioning of health services from their provision - raises conundrums that are intellectually perplexing and practically challenging. In measuring health care needs, health care purchasers are charged with being responsive to the community's interests and patient's preferences. Yet people's demands for health care are based on a desire to be healthy and not on the - quite different - ability to benefit from health care which characterises the definition of epidemiologically assessed need.

The supply of health care previously determined by clinicians, based on their desire to satisfy the need of patients to be healthy, has been characterised by wide variations in practice - in referral rates, intervention rates, tests used, prescribing patterns, and health outcomes for patients. Current patterns of service delivery are only weakly related to objectively assessed needs. The market in health care now requires a standard to be applied to supply which uses scientific evidence of appropriateness and effectiveness as the criterion rather than professional prejudice.

Above all, needs assessment should pin-point wasted resources. Imposing such an approach sets up a tension between a patient oriented approach and a population based one. It requires purchasers to impose scientific rationale and explicit judgment where prejudice, misperception, and implicit approaches to decision making have held sway. The success of purchasing will be determined by its ability to shift the balance of investment from acute to community and primary care - from areas of wasted resources to measurable benefits to population health.

Health Care Needs Assessment puts together the results of the Management Executive's District Health Authority Project. It is a series of reviews of 20 important (high cost, high volume, high morbidity and mortality) conditions from 45 separate experts. Each review draws together information on incidence and prevalence of disease, and on the effectiveness and cost effectiveness of existing services.

The reviews will show up chances for audit as they provide detailed information on the scientific basis for clinical care, help with estimating volumes of service needed and - more importantly - establish the appropriate balance of provision among primary, secondary, and tertiary care most likely to yield the greatest cost per health gain within a disease category. The authors have wrestled with the problem in needs assessment of reconciling disease based epidemiological information with specialty based information. The data presented require local interpretation. Each review includes a useful template for calibrating national and international information locally and for setting up and reviewing local services.

The level of detail in this excellent work moves us closer to implementing a market in health care. Identifying pressure points in the system where there are opportunities for releasing resources leads us inevitably down the road of explicit rationing. The book emphasises the importance of using the skills existing both in purchasing authorities and provider units for successful commissioning of services. But only the public will determine whether such an approach is politically acceptable.

Learning needs assessment: assessing the need

Editorial by Goldbeck-Wood and Peile Janet Grant, professor of education in medicine.

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Learning needs assessment has a fundamental role in education and training, but care is needed to prevent it becoming a straitjacket
It might seem self-evident that the need to learn should underpin any educational system. Indeed, the literature suggests that, at least in relation to continuing professional development, learning is more likely to lead to change in practice when needs assessment has been conducted, the education is linked to practice, personal incentive drives the educational effort, and there is some reinforcement of the learning. Learning needs assessment is thus crucial in the educational process, but perhaps more of this already occurs in medical education than we suspect.

The key lesson might be for those who design new systems of education and training; for example, the postgraduate education allowance system in general practice was felt to fail the profession because it did not include needs assessment and so led to ad hoc education to fulfil the time requirements of the system rather than the needs of individual doctors or the profession as a whole. On the other hand, basing learning in a profession entirely on the assessment of needs is a dangerous and limiting tactic. So a balance must be struck.

**Summary points**

- Learning needs assessment is a crucial stage in the educational process that leads to changes in practice, and has become part of government policy for continuing professional development.
- Learning needs assessment can be undertaken for many reasons, so its purpose should be defined and should determine the method used and the use made of findings.
- Exclusive reliance on formal needs assessment could render education an instrumental and narrow process rather than a creative, professional one.
- Different learning methods tend to suit different doctors and different identified learning needs.
- Doctors already use a wide range of formal and informal ways of identifying their own learning needs as part of their ordinary practice.
- These should be the starting point in designing formalised educational systems for professional improvement.

In 1998 both individual and organisational needs assessment became part of government policy in relation to the continuing professional development and personal development plans of all healthcare professionals. Thus, it has a role in the clinical governance of the service and is therefore much more than an educational undertaking. This integration of needs assessment, education, and quality assurance of the service was first made explicit in 1989 in relation to clinical audit, which would identify practices in need of improvement and ensure that educational and organisational interventions were made to address these needs. Accordingly, audit was described as "essentially educational" and the educational process surrounding it described.

Long before these recent developments, needs assessment outside medicine was presented as an important part of managed education and learning contracts, which are the predecessors of the personal development plans to be developed for all NHS healthcare professionals. In his descriptions of adult learning, Knowles assumed (he did not claim to have research evidence) that learners needed to feel a necessity to learn and that identifying one's own learning needs was an essential part of self-directed learning. In medicine, a doctor's motivation to learn would therefore derive from needs identified during his or her experience of clinical practice. So the pedigree and practice of learning needs assessment, if not the evidence, are well established.

**The definition of need**

As in most areas of education, for many years there has been intense debate about the definition, purpose, validity, and methods of learning needs assessment. It might be to help curriculum planning, diagnose individual problems, assess student learning, demonstrate accountability, improve practice and safety, or offer individual feedback and educational intervention. Published classifications include felt needs (what people say they need), expressed needs (expressed in action) normative needs (defined by experts), and comparative needs (group comparison). Other distinctions include individual versus organisational or group needs,
clinical versus administrative needs, and subjective versus objectively measured needs. The defined purpose of the needs assessment should determine the method used and the use made of findings.

Furthermore, even though the concept of educational needs assessment is enshrined in practice, policy, and the educational canon, several factors indicate the need for careful planning and research in this subject (see boxes 1 and 2). Exclusive reliance on formal needs assessment in educational planning could render education an instrumental and narrow process rather than a creative, professional one. This is especially so in a profession where there is inherent unpredictability and uncertainty.

Members of any profession require wide knowledge and depth of experience—the relevance of some of which might not have been obvious at the time of learning. Certainly, learning needs can and should be identified on the basis of what has been experienced and of what more experienced members of the profession know to be relevant, but this must not deter other, more general or even speculative, learning that, at the time, seems to answer no specific need.

Possibly no specific learning needs assessment would ever send a person to a large international conference on a generic subject (such as endocrinology, medical education, or management). It is, nevertheless, important that doctors attend such meetings and return with the unexpected and expected benefits that they accrue.

**Box 1: Need for careful planning in needs assessment**

- There is little evidence that needs assessment alone enhances educational effectiveness and outcomes, so it must be placed within the wider process of planned learning, relevance to practice, and reinforcement of learning in the appropriate context.
- Formal needs assessment can identify only a narrow range of needs and might miss needs not looked for, so breadth and flexibility of needs assessment methods should be embraced.
- In professional education it is not necessarily defensible to focus all learning on identified needs—wider professional learning not related to a specific need is also of fundamental value where practice is not predictable.
- Individual and group learning needs are different—group learning needs may produce an average picture that fails to address important needs and interests of individual members of the group—so a balance is required. Each approach has its uses and effects, but each must be used for the right purpose.
- Identifying individual learning needs, often not shared by others, may lead to an unimpressive cost-benefit analysis in terms of individually targeted use of educational resources if used inappropriately. Individual learning needs assessment is best used in the context of learning that occurs on an individual basis—such as in the relationship between general practitioner registrar and trainer.

**Box 2: Need for research into needs assessment in medical education**

- What are the effects of and responses to needs assessment alone for students, trainees, and senior doctors at different stages of medical education?
- What is the relative validity, reliability, or utility of different formal and informal methods of learning needs assessment in medical education at any level?
- To what extent do needs assessment methods identify all important learning needs?
- What are the relative effects and efficacy of identifying group and individual learning needs?
What methods of planning effective learning experiences are most effective on the basis of needs identified?

Methods of needs assessment

Although the literature generally reports only on the more formal methods of needs assessment, doctors use a wide range of informal ways of identifying learning needs as part of their ordinary practice. These should not be undervalued simply because they do not resemble research. Questionnaires and structured interviews seem to be the most commonly reported methods of needs assessment, but such methods are also used for evaluation, assessment, management, education, and now appraisal and revalidation. Together, these formal and informal methods might make an effective battery where there is clarity of purpose. The Good CPD Guide details 46 formal and informal methods of self assessment (see box 3).

Box 3: Good CPD Guide’s classification of sources of needs assessment

<table>
<thead>
<tr>
<th>Clinician’s own experiences in direct patient care</th>
<th>Formal approaches to quality management and risk assessment</th>
<th>Non-clinical activities</th>
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</thead>
<tbody>
<tr>
<td><em>Blind spots</em></td>
<td><em>Audit</em></td>
<td><em>Academic activities</em></td>
</tr>
<tr>
<td>Clinically generated unknowns</td>
<td><em>Morbidity patterns</em></td>
<td><em>Conferences</em></td>
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<tr>
<td>Competence standards</td>
<td><em>Patient adverse events</em></td>
<td><em>International visits</em></td>
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<tr>
<td>Diaries</td>
<td><em>Patient satisfaction surveys</em></td>
<td><em>Journal articles</em></td>
</tr>
<tr>
<td>Difficulties arising in practice</td>
<td><em>Risk assessment</em></td>
<td><em>Medico-legal cases</em></td>
</tr>
<tr>
<td>Innovations in practice</td>
<td></td>
<td><em>Press and media</em></td>
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<tr>
<td>Knowledgeable patients</td>
<td></td>
<td><em>Professional conversations</em></td>
</tr>
<tr>
<td>Mistakes</td>
<td></td>
<td><em>Research</em></td>
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<tr>
<td>Other disciplines</td>
<td></td>
<td><em>Teaching</em></td>
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<tr>
<td>Patients’ complaints and feedback</td>
<td></td>
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<tr>
<td>Necropsies and the clinico-pathological conference</td>
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<tr>
<td>PUNs (patient unmet needs) and DENs (doctor’s educational needs)</td>
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<tr>
<td>Reflection on practical experience</td>
<td></td>
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</tr>
</tbody>
</table>

Interactions within the clinical team and department

| Clinical incident surveys | Observation | Academic activities |
| Gap analysis | Revalidation systems | Conferences |
| Objective tests of knowledge and skill | Self assessment | International visits |
| Video assessment of performance | | Journal articles |

Peer review

| *External* | *Revalidation systems* |
| *Informal of the individual doctor* | |
| *Internal* | |
| *Multidisciplinary* | |
| *Physician assessment* | |

The methods listed are both formal and informal, planned and opportunistic, showing that day to day work and encounters have the potential to generate needs as much as do formal methods. Formal needs assessment methods include critical incident techniques, gap analysis, objective knowledge and skills tests, observation, revalidation, self assessment, video assessment, and peer review. Such methods are often used to identify group needs. Formal identification of needs can also arise from audit, morbidity patterns, adverse events, patient satisfaction surveys, and risk assessment. Most of these tools use quantitative methods that can generate computerised data and cover wider population ranges, but these are often unable to probe into the personal agendas and opinions of individuals.

Types of needs assessment

Methods of needs assessment can be classified into seven main types, each of which can take many different forms in practice.
Gap or discrepancy analysis

This formal method involves comparing performance with stated intended competencies by self assessment, peer assessment, or objective testing—and planning education accordingly.  

Reflection on action and reflection in action

Reflection on action is an aspect of experiential learning and involves thinking back to some performance, with or without triggers (such as videotape or audiotape), and identifying what was done well and what could have been done better. The latter category indicates learning needs. Reflection in action involves thinking about actual performance at the time that it occurs and requires some means of recording identified strengths and weaknesses at the time. The Canadian MOCOMP programme uses formalised reflection as its basic process. Similarly, PUNs and DENs (see box 3) are well known in British general practice.

Self assessment by diaries, journals, log books, weekly reviews

This is an extension of reflection that involves keeping a diary or other account of experiences. However, practice might show that such documents tend to be written nearer the time of their review than the time of the activity being recorded.

Peer review

This is rapidly becoming a favourite method. It involves doctors assessing each other’s practice and giving feedback and perhaps advice about possible education, training, or organisational strategies to improve performance. The Good CPD Guide describes five types of peer review—internal, external, informal, multidisciplinary, and physician assessment. The last of these is the most formal, involving rating forms completed by nominated colleagues, and shows encouraging levels of validity, reliability, and acceptability.

Observation

In more formal settings doctors can be observed performing specific tasks that can be rated by an observer, either according to known criteria or more informally. The results are discussed, and learning needs are identified. The observer can be a peer, a senior, or a disinterested person if the ratings are sufficiently objective or overlap with the observer’s area of expertise (such as communication skills or management).

Critical incident review and significant event auditing

Although this technique is usually used to identify the competencies of a profession or for quality assurance, it can also be used on an individual basis to identify learning needs. The method involves individuals identifying and recording, say, one incident each week in which they feel they should have performed better, analysing the incident by its setting, exactly what occurred, and the outcome and why it was ineffective.

Practice review

A routine review of notes, charts, prescribing, letters, requests, etc, can identify learning needs, especially if the format of looking at what is satisfactory and what leaves room for improvement is followed.

The difference between needs assessment and assessment

Needs assessment is not the same as assessment in the sense of examination of learning. Assessment systems that lead to academic or professional awards should show certain minimum characteristics, including measurement of performance against external criteria and standards, a decision on adequacy by an assessor, and standardised data gathering. Needs assessment might sometimes have these characteristics, but it also might be based on practice, reflection, professional judgment, discussion, and informal data. Needs assessment methods that are limited by the standards of assessment will fall into the trap of assessing only a narrow range of needs.
Learning for needs

The main purpose of needs assessment must be to help educational planning, but this must not lead to too narrow a vision of learning. Learning in a profession is unlike any other kind of learning. Doctors live in a rich learning environment, constantly involved in and surrounded by professional interaction and conversation, educational events, information, and feedback. The search for the one best or "right" way of learning is a hopeless task, especially if this is combined with attempting to "measure" observable learning. Research papers show, at best, the complexity of the process.

Multiple interventions targeted at specific behaviour result in positive change in that behaviour. Exactly what those interventions are is less important than their multiplicity and targeted nature. On the other hand, different doctors use different learning methods to meet their individual needs. For example, in a study of 366 primary care doctors who identified recent clinical problems for which they needed more knowledge or skill to solve, 55 different learning methods were selected. The type of problem turned out to be the major determinant of the learning method chosen, so there may not be one educational solution to identified needs.

Much of doctors' learning is integrated with their practice and arises from it. The style of integrated practice and learning ("situated learning") develops during the successive stages of medical education. The components of apprenticeship learning in postgraduate training are made up of many activities that may be regarded as part of practice (see box 4). Senior doctors might also recognise much of their learning in some of these elements and could certainly add more—such as conversations with colleagues.

Box 4 : Components of apprenticeship learning in postgraduate training

- Learning by doing
- Experience of seeing patients
- Building up personal knowledge and experience
- Discussing patients
- Managing patients
- Having errors corrected
- Making teaching points during service
- Listening to experts' explanations
- "Picking things up"
- Charismatic influences
- Learning clinical methods from practice
- Being questioned about thought and actions about patients
- Teaching by doing
- Using knowledge and skill
- Bite-size learning from "bits and pieces"
- Retrieving and applying knowledge stored in memory
- Learning from supervision
- Receiving feedback
- Presentation and summarising
- Observing experts working
- Learning from role models
Thus, educational planning on the basis of identified needs faces real challenges in making learning appropriate to and integrated with professional style and practice. The first step in all of this is to recognise the needs assessment and learning that are a part of daily professional life in medicine and to formalise, highlight, and use these as the basis of future recorded needs assessment and subsequent planning and action, as well as integrating them with more formal methods of needs assessment to form a routine part of training, learning, and improving practice.

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(Accepted 17 December 2001)

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**Relevant Articles**

- **Learning needs assessment should not be restrictive**
  - BMJ 2002 324: 0. [Full Text]

- **Health systems: where doctors and patients meet**
  - BMJ 2002 324: i. [Full Text] [PDF]

- **Learning in practice: a new section in the BMJ**
  - Sandra Goldbeck-Wood and Ed Peile
  - BMJ 2002 324: 125-126. [Extract] [Full Text] [PDF]

**This article has been cited by other articles:**


Needs assessment, priority setting, and contracts for health care: an economic view
Cam Donaldson, Gavin Mooney

The publication of the Acheson report led to the proposal that directors of public health should be responsible for assessing the needs of their local populations. This idea was then taken up in the white paper on the NHS, which reaffirmed their responsibility to assess the needs of the population but as a means of informing health boards/authorities as purchasers of care.

One way of informing the contracting process, it is thought, is to assess the health care needs of the population, to determine what health care should be provided and to what extent.

We propose here a method for determining priorities in health care based not on total needs assessment but on economic evaluation. We believe this method is more relevant for health care contracting. Its widespread use will ensure that, no matter what total needs are, health care resources are used in such a way as to maximise the benefits from them.

We first introduce the economic approach to priority setting and outline its advantages over needs assessment. Finally, we discuss how health care professionals might in practice use the economic approach in setting priorities and contracts.

Setting priorities: the economic approach
Setting priorities starts from the fact that resources are scarce. Contracting is an arrangement between purchasers and providers about what to provide and what not to provide. If the aim is to maximise health gains to the community within the resources available priority setting should become an integral part of contracting.

Tackling one particular health problem denies society the opportunity of using those resources to tackle other health problems. There are opportunities forgone and thereby opportunity costs. The aim of priority setting is to ensure that the health benefits resulting from health care are maximised and that the opportunity costs of health care are minimised. This can be done only by comparing health care interventions with each other in terms of health gains produced for resources spent.

The economic approach to priority setting addresses two related questions: Is a health care intervention worthwhile? Given that it is worthwhile, what is the best way of providing it? Policy questions often relate to changing the scale of a health care intervention—providing more of it or less of it. Evaluation must then take account not of the total costs and benefits of the whole programme but of the incremental (or marginal) costs and benefits (that is, the difference between costs and benefits before and after the change in scale).

A comparison using a league table of QALYs (quality adjusted life years) of some marginal costs and benefits is presented in table I. Certainly, QALYs can be criticised as measures of health, but they are among the best measures currently developed. Consequently, assuming that the objective of health care policy is to maximise the contribution of health care resources to the health of the community, then more resources within the health care budget should be allocated to treatments with a low marginal cost per QALY and less to those with a high marginal cost per QALY gained. Thus, assuming all health care treatments available are those listed in Table I, other things being equal, dialysis should be contracted and chiropody expanded; more QALYs would be produced without any increase in expenditure.

<table>
<thead>
<tr>
<th>TABLE I - Illustrative marginal cost per QALY league table</th>
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<tbody>
<tr>
<td>Treatment</td>
</tr>
<tr>
<td>Special chiropody at home (&gt;75 years)</td>
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<tr>
<td>GP’s advice to give up smoking</td>
</tr>
<tr>
<td>Chiropody in a clinic (ages 60-75)</td>
</tr>
<tr>
<td>Pacemaker implantation</td>
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<tr>
<td>Hip replacement</td>
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<tr>
<td>Valve replacement for aortic stenosis</td>
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<tr>
<td>Coronary artery bypass grafting:</td>
</tr>
<tr>
<td>Severe angina, left main disease</td>
</tr>
<tr>
<td>Severe angina, triple disease</td>
</tr>
<tr>
<td>Moderate angina, left main disease</td>
</tr>
<tr>
<td>Kidney transplantation</td>
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<tr>
<td>Haemodialysis at home</td>
</tr>
<tr>
<td>Haemodialysis in hospital</td>
</tr>
<tr>
<td>Sources: Williams, Bryan et al. 6</td>
</tr>
</tbody>
</table>

Setting priorities: the needs assessment approach
The traditional epidemiological approach to needs assessment would appear to be to measure the total amount of ill health in the community, categorised by disease, and then use this information to set priorities for allocating resources between different diseases. "Need" could be measured by lives lost, life years lost, morbidity, or loss of social functioning.

Using some broad definition of need epidemiologists would then set priorities using data of the sort presented in Table II. The first priority in health care resource allocation, and in purchasing care, would go to ischaemic heart disease.
Nevertheless, it is not clear from such data how many resources ischaemic heart disease would receive relative to other diseases. Should all heart disease be treated before the others receive funding? Would heart disease receive funding until it came down to the level of life years lost from cerebrovascular disease? Would the health care budget be divided pro rata with the numbers of life years lost from each disease?

TABLE II-Estimated years of potential life lost before age 85, England and Wales 1984:

<table>
<thead>
<tr>
<th>Top 10 causes</th>
<th>Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic heart disease</td>
<td>1869</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>574</td>
</tr>
<tr>
<td>Cancer of trachea, bronchus, and lung</td>
<td>549</td>
</tr>
<tr>
<td>Cancer of colon</td>
<td>548</td>
</tr>
<tr>
<td>Cancer of genitourinary organs</td>
<td>302</td>
</tr>
<tr>
<td>Other heart disease and hypertension</td>
<td>258</td>
</tr>
<tr>
<td>Cancer of breast</td>
<td>239</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>201</td>
</tr>
<tr>
<td>Other respiratory diseases</td>
<td>171</td>
</tr>
<tr>
<td>Motor vehicle traffic accidents</td>
<td>170</td>
</tr>
</tbody>
</table>

Source: OPCS.*

The priorities established by using such a form of needs assessment are likely to be different from those established through economic evaluations. Priority setting using this method will tend to favour treating the big killers. This may conflict with the results of economic evaluations. For instance, foot problems are unlikely to rank highly in society’s list of health care needs, yet chiropody represents good value for money in terms of health gains relative to extra resources spent.

Such a conflict arises because there are two major flaws in the needs assessment approach to priority setting. Firstly, “need” is a red herring. It is changes in need met (or marginal met need) that should be the outcome factor. Secondly, changes in costs resulting from interventions are ignored.

A practical approach to contracting and priority setting

We assume that in choosing between bids for a particular contract the choice will be based on what is most cost effective. This paper deals only with priority setting at the level of allocative efficiency—that is, since not everything that is desirable for the health of the local population can be done, what is to be done, to what extent, and what is to be left undone or at best delayed?

There are four key principles underlying the proposed approach: (a) resources are scarce, (b) ineffective treatments must be discarded, (c) even if treatments are effective, they should be pursued only to the extent that costs remain less than benefits, (d) the focus is on changes in service delivery—and the costs and benefits of those changes.

In an ideal world what would follow would be a cost benefit assessment of all treatments at all possible levels of provision and the selection of those that yielded the greatest benefit per pound spent. A more pragmatic strategy is as follows.

Firstly, an authority must decide what “programmes” are considered to be relevant in the light of the authority’s strategy in terms of disease groups, client groups, or specialties. Each programme should meet the following requirements. (1) It should contain some set of activities for which there is some homogeneity in the outputs. (2) It should be meaningful in terms of the authority’s strategy to talk about priorities within programmes. (3) The cost of activities contained in each programme must be known, at least roughly.

Secondly, each programme should then be examined to see whether some reallocations within the programme can produce an overall increase in benefits. The way of doing this is as follows: (a) decide which treatments are so valuable or simply have to be provided that it would be a waste of time analysing them; (b) of the remainder, start by assessing which areas are most open to change; (c) for each existing programme in turn, divide it into sub-programmes and then ask what the effect would be (if possible in terms of both workload and health) of reducing spending by £100 000 and of increasing it by £100 000.

Judgments could then be made on whether some sub-programmes could be cut to allow other sub-programmes to get extra funding so that there would be more benefits in total. In other words the losing sub-programme would be judged to lose less benefit than the gaining sub-programme gained. Such a process should be continued until within the overall resources there is no possibility of getting a greater benefit overall.

Thirdly, the formal process in this strategy would be to go through the same procedure for the programmes as a whole.

Conclusion

Two considerations arise from our proposed approach. Firstly, it does not require any assessment of total needs. Secondly, the key concept is that of benefit and of getting the greatest benefit for each pound spent. Following this approach will ensure that met need (or health outcome) is maximised with the health care resources at society’s disposal while avoiding the need to measure need.