Trent Focus for Research and Development in Primary Health Care

Health Needs Assessment in Primary Care

LINDA EAST, VICKY HAMMERSLEY, BEVERLEY HANCOCK
TRENT FOCUS GROUP

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AUTHORS:

Linda East
School of Nursing, Postgraduate Division
University of Nottingham

Vicky Hammersley
Division of General Practice
University of Nottingham

Beverley Hancock
Division of General Practice
University of Nottingham

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This resource pack is one of a series produced by the Trent Focus Group. This series has been funded by the Research and Development Group of NHS Executive Trent.

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Reference as: East, Linda; Hammersley, Vicky and Hancock, Beverley. Trent Focus for Research and Development in Primary Health Care: Health Needs Assessment in Primary Care. Trent Focus, 1998
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Introduction

The purpose of this pack is to introduce readers to health needs assessment in contemporary primary health care. It has been written at an exciting time, when the mechanisms are being set in motion which will make health service increasingly primary care led. The NHS (Primary Care) Act of 1997 will encourage new ways of working and increased flexibility in service delivery. The following quotation is taken from *Primary care: delivering the future*, the Government White Paper which underpins the new legislation:

Primary care depends on the contribution of a wide range of professionals working together to meet the needs of all patients in the community. At its heart is the family doctor and the general practice team of nurses, managers and, increasingly, other professionals. They need to work closely with community nurses, midwives and therapists to offer comprehensive and appropriate support to their patients. But primary care does not stop here - pharmacists, dentists, and optometrists on the high street provide essential services as, for example, do social workers and housing officers from local authorities. The proposals in this document should enable all of these to play their part better, to extend their role where appropriate and to ensure that services are co-ordinated around the needs of individuals.

DoH, 1996, p4

The last sentence, in particular, is highly relevant to the purpose of this pack when it states that services should be "co-ordinated around the needs of individuals". Health care usually takes the individual as its starting point, but primary care is also informed by a public health ethos which concerns the health and welfare of people in groups. Primary care practitioners do not assess individuals in isolation from the communities in which they live. They recognise that the health experiences of individuals are affected by whether they reside in towns or disadvantaged inner-cities, in isolated farm houses or sprawling council estates. Primary care practitioners know about the range of local services and facilities and are part of local networks of formal and informal care. It is encouraging to see that this local knowledge is both recognised and celebrated in recent government policies.

Primary care practitioners serve other communities as well as those based on shared residence of a particular location. Within the neighbourhood there will be institutions such as schools and factories where people have health needs. There may also be groups of people whose needs reflect the social and physiological legacies of their ethnic origins, or who are drawn to the area by particular facilities, from women's refuges to universities. People who once would have lived their lives in institutions now make their homes in more or less supported environments in the community, and therefore need improved access to the services of primary care.

Primary care workers need to know how to assess individuals, how to manage their care and how to encourage healthier lifestyles. They require a great understanding of people’s ways of life and the health problems they experience and they need to know how to use this understanding to systematically assess the needs of people in groups. Health needs assessment aims to achieve health gain for groups by identifying need and effectively targeting resources. The process of health needs assessment takes the locality as its starting point, a point recognised by the Department of Health:
Our aim is to enable local people to shape and develop high quality primary health care services in a way which makes best use of the resources available and best suits local circumstances and needs.

DoH, 1996, p4

Health needs assessment means identifying local strengths as well as difficulties, and devising strategies which build on the former and minimise the latter. This pack is dedicated to helping primary care practitioners understand the principles of health needs assessment. The following sections will:

- introduce the reader to different approaches to health needs assessment;
- outline appropriate methods for collecting information;
- discuss how this information can be interpreted and applied in practice.

Users of this pack will be advised of the other packs in the Trent Focus series which offer more detailed information on methods of data collection.

### LEARNING OBJECTIVES

After using this pack, the reader will be able to:

- discuss the role and functions of health needs assessment in contemporary primary health care;
- outline four key approaches to health needs assessment (the practice profile, the community profile, the life cycle framework and the group of special interest);
- identify methods of collecting quantitative information from public and patient records and epidemiological data;
- analyse the scope and appropriateness of four approaches to primary data collection (observation, surveys, qualitative interviews and focus groups);
- consider ways in which the results of health needs assessment can be used in primary health care practice.
Section 1: Defining health needs assessment

This section will explore the context of health needs assessment, including the background to the development of health needs assessment and tensions between community development approaches and economic constraints. It is intended to assist primary health care practitioners to identify the purpose of conducting health needs assessment in their own setting.

What is health needs assessment?

It is difficult to offer a concise definition of health needs assessment because of the debates which surround the concepts of 'health' and 'need'. Economists, in particular, are sceptical of the whole idea of need, preferring to think in terms of demand and supply. Primary health care practitioners use this debate to ask: What do people need to maintain a worthwhile quality of life? Most people would acknowledge that adequate food and heating are essentials - but do families really need a television or a washing machine? Readers interested in following up this theoretical debate are referred to the work of Doyal and Gough (1991), who argue that there are basic human needs and also intermediate needs crucial to the universal goal of full participation in society. Ultimately, everyone wants to avoid harm and be part of society to the degree that they themselves chose. Basic and intermediate needs are the preconditions which must be satisfied before this goal can be realised, as outlined in Table 1.

Percy-Smith and Sanderson (1992) used Doyal and Gough's framework to inform a study of local needs in Leeds. They concluded that "the best way of addressing ill-health and the absence of well-being in the longer term, may not be through medical intervention but through measures aimed at alleviating the problems that appear to lead to ill-health and lack of well-being" (p224). Primary care workers should thus recognise the full range of factors which have the potential to contribute to the overall health profile of a community, and not stick to a narrow medical focus. The Department of Health go some way towards recognising this when they acknowledge the role of social workers and local authority housing officers in primary care (DoH, 1996).

Recently, a report has been published which outlines the first phase of a project seeking to develop a public health model of primary care (Peckham and Macdonald, 1996). The report outlines the changing role of primary health care as it moves to centre stage in contemporary health policy. The authors argue that two key influences underpin the demand for a 'primary care-led' National Health Service (NHS). First, an increased emphasis has been placed on the public health role of primary care in the context of the World Health Organisation's framework for 'Health for All' and, in England and Wales, of the government's Health of the Nation strategy (DoH, 1992). Second, the NHS reforms of the 1980s and 90s have identified general practice as the natural home for locality-based purchasing, both at the level of individual practices and through the integration of district and family health service authorities.
Understanding human need

**Universal goal:**
- avoidance of serious harm and minimally disabled social participation

**Basic needs:**
- an optimum level of physical health and 'autonomy of agency' (i.e. freedom to make decisions over one's life)

**Intermediate needs:**
- adequate food and water
- adequate protective housing
- a non-hazardous work environment
- appropriate health care
- security in childhood
- significant primary relationships
- physical security
- economic security
- safe birth control and child-bearing
- basic education

*From Doyal and Gough, 1991.*

Table 1. Basic and intermediate human needs.

**Why carry out health needs assessment?**

These two key influences, it can be argued, have resulted in two very different rationales for health needs assessment in primary care. The philosophy which underpins the principles of Health for All, emphasises social justice, equity, community participation and responsiveness to the needs of local populations. Primary health care workers who support these principles, particularly those specialising in health promotion or public health, may espouse the views of Hawe *et al* (1990):

> Health needs are understood as being those states, conditions or factors in the community which, if absent, prevent people from achieving the optimum of physical, mental and social well-being.

*Hawe et al., 1990, p17*

In the first case, the rationale for health needs assessment is one of promoting equity in access to a positive state of health and well-being. However a second rationale for a research based approach to health needs assessment lies in the National Health Service reforms which informed the 1991 NHS and Community Care Act. Prior to this, health service planning has been described as supply led, focusing on existing services rather than need and biased towards the acute sector (Pickin and St. Leger, 1993). Thus, the reforms of the 1990s and the introduction of market principles underpin the second rationale for health needs assessment: to ensure the most clinically efficient and cost effective distribution of limited resources. Thus, a very different vision of health needs assessment to that enshrined in the principles of Health for All emerges, focusing on the need for *health care services* as opposed to the need for *health*. It is basically a medical model for health care, where need is defined as the presence of a disease which is treatable successfully:
Health authorities and general practitioners seek to purchase care which will achieve both health gain for their populations and the best value for money. There is a danger that preventative work will be marginalised if health need is narrowly defined as the potential for health gain within a disease-focused bio-medical framework.

**Who should be involved in health needs assessment?**

Under the NHS and Community Care Act (1990), assessment of need within populations is the responsibility of Directors of Public Health working at executive levels within health authorities. They produce annual reports outlining the priorities for their districts, which are available from health authorities or through libraries and contain much interesting information. Fundholding general practices are charged with a similar responsibility to consider their practice populations and determine spending priorities accordingly. Even where the majority of general practices are not fundholding, general practitioners have sometimes formed purchasing consortia. In addition, policies favouring locality management require provider units to take an overview of need in ever smaller and more precise geographical areas.

The process of assessing need within the communities they serve is not a new idea for primary health care practitioners. Robinson and Elkan (1996) observe that the formalisation of health needs assessment as a part of the role of community nurses can be traced to new syllabus for health visitor training introduced in 1965. The role of nurses is confirmed in the policy document *New world, new opportunities; nursing in primary health* (National Health Service Management Executive, 1993):

> Primary health care nurses are expanding their scope of professional work in home health care and many specialist areas of nursing. They are also developing their skills in public health, enabling them to raise questions about overall health status and factors associated with it and to identify groups most in need of health support, guidance and treatment. This dimension of primary health care nursing has been given new impetus by the purchaser-provider arrangements under which the health needs of the population are assessed and analysed and appropriate services commissioned to meet them.

*NHSME, 1993, p13*

The concept of the primary health care team is expanding to embrace the ideals of working in partnership. The professions traditionally described as 'allied to medicine' all play an essential role in identifying health need, planning, co-ordinating and delivering care (DoH, 1996). Nicholas (1996) argues that every primary health care professional should be able to answer the following questions:

- Do you know the health status of the people for whom you are responsible?
- Do you know how this health status differs from the broader community and district health profiles?
- Is there a need to seek to alter this health status?
- If so, is there a capacity to alter that health status in terms of available knowledge and technology - and of political will?

Assessing health need is important both in terms of promoting health and in determining priorities for resource allocation. The following sections in this pack will outline some of the techniques primary care workers can use to develop this area of their practice.
Section 2: Approaches to health needs assessment

This section will describe four frameworks, which can be used to design a health needs assessment project.

It is important that primary health care workers have a sound insight into exactly why they should carry out a needs assessment. A good way of beginning is to consider some of the questions outlined in Table 2.

<table>
<thead>
<tr>
<th>Questions to ask when planning health needs assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What is your area of interest which defines the scope of the health need to be addressed? Are you interested in a whole population or a particular sub-section such as older people or women?</td>
</tr>
<tr>
<td>• What is the size of the problem? How many people share the health need?</td>
</tr>
<tr>
<td>• What are the views of patients, carers and the local community? What is known from previous work? Who do you need to talk to locally?</td>
</tr>
<tr>
<td>• How do your figures compare with local and national averages? How important is the problem in your practice compared with others?</td>
</tr>
<tr>
<td>• What interventions are you already making? Do you have a response to the problem? What are other agencies doing?</td>
</tr>
<tr>
<td>• What has worked elsewhere? Is there any relevant literature available or projects which can be visited? Are there examples of 'best practice' in the area you are interested in?</td>
</tr>
<tr>
<td>• What could and should you be doing in future? Consider all options, prioritise, develop an action plan.</td>
</tr>
</tbody>
</table>


Table 2. Planning a health needs assessment project.

The way in which you address these questions will largely depend on the outcome your needs assessment is designed to produce. In this section, we identify four key approaches to the task of assessing health need:

• the practice profile;
• the life cycle framework;
• the group of special interest;
• the community profile

These approaches need not be mutually exclusive and the techniques used for gathering information will sometimes overlap. However, thinking about the philosophy which informs each approach will help you to clarify your task.
The Practice Profile

The growing importance of primary care in the NHS demands an accurate understanding of what is happening in general practice. The GP contract introduced in 1990 requires practices to submit an annual report to their health authority describing their activities and the population they serve (Ross and Mackenzie, 1996). Fundholding practices also need to profile the health care needs of their population in order to develop the contracts through which they purchase services.

A recent study undertaken in Nottingham by Muir (1996) reviews the information required to develop a practice profile. Muir's conclusions are summarised in Table 3.

<table>
<thead>
<tr>
<th>Information for the practice profile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicators of need</strong></td>
</tr>
<tr>
<td>• Age / sex profile</td>
</tr>
<tr>
<td>• Mortality rates</td>
</tr>
<tr>
<td>• Socio-economic indicators</td>
</tr>
<tr>
<td>• Births</td>
</tr>
<tr>
<td><strong>Indicators of demand</strong></td>
</tr>
<tr>
<td>• GP consultation rates</td>
</tr>
<tr>
<td>• Community services contacts</td>
</tr>
<tr>
<td>• Standardised admission rates (to secondary care)</td>
</tr>
<tr>
<td>• Practice nurse attendances</td>
</tr>
<tr>
<td>• Standardised referral rates (to secondary care)</td>
</tr>
<tr>
<td>• Waiting list information</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
</tr>
<tr>
<td>• Staffing levels</td>
</tr>
<tr>
<td>• Budget / expenditure</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
</tr>
<tr>
<td>• Screening / immunisation rates</td>
</tr>
<tr>
<td>• Chronic disease management activity rates</td>
</tr>
<tr>
<td>• Health promotion activity rates</td>
</tr>
<tr>
<td>• Prescribing data</td>
</tr>
</tbody>
</table>


Table 3. Practice profile content.

The distinction between need, demand and available resources is important. All these elements are part of needs assessment in the practice profile. The indicators used to determine need reflect the population characteristics associated with the burden of ill-health. The indicators reflecting demand, on the other hand give an idea of the services actually used. The profile of resources will describe the means available to meet need and satisfy demand.

It is important to note that the practice profile may fail to capture the dimension of unmet need. It is widely acknowledged that only a small proportion of illness is actually translated into contact with the health services, even in primary care (Ross and Mackenzie, 1996). Health needs assessment within the context of a developing practice profile means going beyond current patterns of service usage in order to target need efficiently and effectively. However, the capacity of practices to take up this challenge is inevitably dependent on the human and material resources available.
The Life Cycle Framework

This approach was developed by Pickin and St Leger (1993) in an attempt to create a systematic and practical framework for health needs assessment. The human lifespan is divided into nine age bands, for each of which there are key issues associated with health and illness. The life cycle framework invites the user to consider the wider influences affecting health status at each stage of life, and describes these as 'modifiers'. Pickin and St Leger also discuss the resources available to improve health and identify factors which affect the use of services. Their text could be a useful source of inspiration for any primary health care worker who has responsibility for a particular age group and wishes to profile their needs. Each pack follows the structure outlined in Table 4 and explores a wide range of issues in relation to health needs assessment at each stage of the lifespan.

<table>
<thead>
<tr>
<th>Structure of the life cycle framework</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influences on health:</strong> main influences at each stage of the lifespan, leading causes of morbidity and mortality</td>
</tr>
<tr>
<td><strong>Sources of information on health:</strong> how to access information</td>
</tr>
<tr>
<td><strong>Modifiers to health experience:</strong> socio-economic, environmental, ethnic and cultural influences on health</td>
</tr>
<tr>
<td><strong>Health resources:</strong> sub-divided into the individual, the family, the community and formal health services</td>
</tr>
<tr>
<td><strong>Modifiers to the use of services:</strong> socio-economic, environmental, ethnic and cultural influences</td>
</tr>
<tr>
<td><strong>Service options:</strong> discusses ways of extending and improving services for each age group</td>
</tr>
</tbody>
</table>


Table 4. The life cycle framework.

Pickin and St Leger suggest their work can be used as a reference which highlights the health issues to consider at each stage of the life cycle and which summarises currently available routine information. They argue that the life cycle framework can be used to explore health need among groups usually defined in other ways. For example, the needs of ‘the homeless’ may be very different depending on age, gender and whether or not the homeless adult has dependent children.

The Group of Special Interest

In approaching the task of health needs assessment, primary care workers may seek to focus on the needs of a particular sub-group of the population. The group selected may be based on age, as outlined above, or may reflect a common characteristic such as gender or ethnic origin. A particularly salient rationale for focusing on a particular group may be because they represent a national priority area as defined in the *Health of the Nation* (DoH, 1992). Alternatively, groups of special interest may share a particular lifestyle which is the focus of health needs assessment, for example travellers or drug users. For some groups, it may be easy to obtain accurate data, for example women who have recently had babies. For other groups, however, it may be much harder
to get an accurate picture as to the numbers involved, for example homeless teenagers on the run from local authority care. In the latter case, sensitive outreach work may be required to accurately profile health need.

An interest in the health needs of a particular group within the practice population is often the starting point for primary health care workers enthusiastic to develop the services they provide. For example, a health visitor working in an inner-city neighbourhood was concerned about the well-being of Asian mothers on her caseload. Through interviewing the young women, a range of interventions were identified which enabled the health centre as a whole to improve its services for this particular group of users.

**The community profile**

A community profile is defined by Hawtin *et al* (1994) as:

> A comprehensive description of the needs of a population that is defined, or defines itself, as a community, and the resources that exist within that community, carried out with the active involvement of the community itself, for the purpose of developing an action plan or other means of improving the quality of life in a community.

*Hawtin et al., 1994, p5*

The emphasis in this approach is on members of the public taking an active, and perhaps a leading, role in developing the profile. The sorts of information included in a community profile might include the resources in the area in terms of schools, shops and open space for children to play in. The profile may include looking at crime rates as well as health statistics, and housing conditions as well as high rates of particular diseases. Often residents of a particular area come together to campaign for particular improvements such as traffic calming, and will enlist the help of health professionals to support their case. At other times, it may be the primary health care workers who seek to stimulate public awareness of health issues within a neighbourhood, and facilitate the processes of community development. In this case, it will be necessary to adopt a problem-solving action oriented approach as described in Table 5.
HEALTH NEEDS ASSESSMENT IN PRIMARY CARE

Practical profiling: ten steps

1. Assembling a group of interested and concerned local people
2. Initial prioritising of perceived problems
3. Initial planning and timescale for the profiling exercise
4. Mobilising resources - time, money and training for participants in data collection
5. Gathering data
6. Analysing data and identifying needs
7. Presenting results
8. Taking the profile forward
9. Working with others
10. Monitoring and evaluation


Table 5. Developing a community profile.

An excellent example of a community profile has recently been produced in Nottingham. The profile celebrates the 75th anniversary of the Sherwood Estate and came about when a group of concerned people got together to form a Community Profile Steering Group. The group included residents from the Estate, representatives of community groups and a community development worker employed by Nottingham City Council, which also gave a small grant to the project. Information was collected from the 1991 census, from a door to door survey of residents and from interviews with children at the local junior school. The Sherwood Estate Community Profile does not have an explicit health focus but the implications for primary care practitioners working within a public health ethos are clear. The main concerns identified were:

- **youth** - more support is needed from the Youth Services;
- **play areas/open spaces** - these must be assessed and developed;
- **roads** - more crossings are needed;
- **environment** - a ‘clean-up Sherwood’ campaign should be organised;
- **isolation** - more needs to be done to integrate people, particularly the elderly;
- **community centre** - this is under-utilised and needs to be assessed;
- **community spirit** - activities needed to cultivate stronger community identity;
- **community support** - groups such as tenants’ associations should be heard and encouraged by local authorities.

Community profiles will vary according to the specific locality and its needs. Whatever the circumstances, the process of producing a profile can be empowering for the group of people involved. It is a good way of building relationships and promoting team work between local residents, voluntary groups and public agencies. However, it is important to continue the work once the profile has been completed and to campaign on the needs and problems identified. Primary health care workers who take this approach to health needs assessment need a long-term commitment to the neighbourhood and confidence in their own ability to advocate for public health.
Summary

In approaching health needs assessment, it is important to be clear about your purpose - to know what are you trying to find out and to what end. Thinking this through at the beginning will enable you to think more clearly about the kind of information needed, from whom information should be collected, and the best way of collecting information. The following sections will explore the sources of evidence for health need in more depth and suggest a variety of strategies which can be applied in primary care.
Section 3: Using public health data and patient records

This section will offer practical guidance on how to collect and analyse public and practice-based information and, where relevant, will discuss the strengths and limitations of each data source. The reader is encouraged to undertake the suggested exercises in order to develop insight into quantitative data analysis.

In an ideal world, health needs assessment would be based upon data which describes every individual registered with a general practice or living within a defined neighbourhood. In the real world, this is not possible. The assessment of health need, therefore, will always rely on the analysis and interpretation of existing data. Luckily, a great deal of useful information is routinely available. The available information includes census data and the results of local and national surveys such as the General Household Survey. The public health common data set (PHCDS) is commissioned by the Department of Health and is presently produced by The National Institute of Epidemiology (University of Surrey, 14 Frederick Sanger Road, Surrey Research Park, Guilford, GU2 5YD). The data set was introduced in 1989 as a resource for Directors of Public Health in producing their annual reports, but is now being used for a variety of purposes. The data set has been expanded to include data on morbidity, mortality trends, Health of the Nation target indicators and indicators derived from the 1991 census. The PHCDS is an annual publication, the 1996 set was available in March 1997, and is distributed to all health authorities. Access to many external data sources (i.e. data collected from outside the practice) can be gained from health authority resource centres, departments of public health, local councils, and good public libraries. Data sources described in the following paragraphs comprise demographic data, activity data and health data. These data are usually presented in relation to larger units of a geographically defined population, but can be broken down to the level of a shared postcode.

Demographic data

Demography refers to the study of populations with reference to the factors which affect it such as migration and mortality, and the interactions these factors have with social and economic conditions.

Population data

The choice of population depends on the specific purpose of the health needs assessment exercise. The populations may be as small as enumeration district (approximately 200 households) but more usually are assessed at the level of the electoral ward or health authority population. For example, a health needs assessment exercise within a general practice may cover all registered patients, whereas a health needs assessment carried out by a health visitor may be limited to all patients on her case load. Care must be taken when identifying the chosen population, as they may overlap several electoral wards, and identifying the characteristics of the total population for comparative purposes may prove difficult. If a practice population is chosen, census information covering each electoral ward can be obtained from the health authority, this includes information about households, as well as individuals and can be analysed for each variable measured, thus allowing a comparison of all wards covered by the target population for the health needs assessment to be
made with local and regional figures. Health authorities can play a positive role in collating and disseminating information.

The age-gender structure of a population, whether it be practice, local or regional, is fundamental to health needs assessment. The baseline population data are derived from the results of the decennial census, and this information can be found in the Office of Population Census and Surveys (OPCS) book entitled *Census 1991 - Key Statistics for Local Authorities*. It is also possible to obtain an age/sex breakdown of a general practice population. Population estimates are calculated by OPCS by taking the census data as a baseline, by using data on births and deaths since the time of the census, and then estimating the migration in and out of the district. Population projections refer to educated guesses of population in the future. In carrying out health needs assessment it is important to determine the value of knowing the detailed characteristics of the population, and whether comparison with larger populations is needed. For example, if the assessment is to be used for redistribution of services, then reliable comparisons are essential. If, however, the health needs assessment is to identify the extent of the need for a service within a general practice (e.g. a Well Man clinic), it is essential to know the extent of the need within the general practice list, but of little interest to compare the extent of the need occurring in a wider population.

**Social characteristics**

Most of the information available on the social characteristics of people also comes from the census. (Census 1991). *Census 1991* analyses the following information for district councils:

- economic activity;
- industry of employment;
- travel to work;
- number of households / household size / economically active adults;
- households with children / one adult households with children;
- ethnic group.

A number of the variables collected in the census can be analysed in combination to create indicators for deprivation. There are two widely recognised quantitative measures of deprivation based on the population of electoral wards, the Jarman Index and the Townsend Score (Table 6).

The Jarman Score is available at practice level and is the index used to determine extra deprivation payments for general practices. The more positive the Jarman score, the more deprived the community. GPs receive a low deprivation payment for patients living in wards with an under-privileged area (UPA) score of +30 to +40, medium payments for those wards with a UPA of +40 to +50, and high deprivation payments in wards with a UPA of more than 50. The score of 0 is average for England and Wales.
The Jarman Index
The Jarman under-privileged area (UPA) score is derived from eight census variables:
- % unemployment
- % children under 5
- % unskilled workers
- % lone parents
- % pensioners living alone
- % over-crowded households
- % ethnic minority
- % changed address in last year

A score of 0 is average, and the more positive the score the more deprived the population.

The Townsend score
The Townsend deprivation score is derived from four Census variables:
- % households with no car
- % unemployment
- % homes non-owner occupied
- % over-crowded households

Again, the more positive the Townsend score, the more deprived the population.

Table 6. Jarman and Townsend scores.

There are problems associated with both the Jarman and Townsend scores. Validity is concerned with whether or not an indicator actually measures the underlying attribute which it claims to measure (Robinson and Elkan, 1996).

- The Jarman index was initially based on ten variables, and subsequently two have been omitted on grounds of lack of validity.
- In some cases, where direct deprivation is impossible to measure, an appropriate indicator cannot be found.
- Most measures of deprivation rely on the census, and are therefore constrained by the information available in the census.
- The census is decennial, hence information collected and used soon becomes out of date.

As deprivation is closely associated with higher levels of ill health, deprivation indicators are useful proxy measures for health need. Further useful information available in the decennial census includes the number of people who self-report a limiting long-term illness.

The practice database includes the patient’s address with postcode, and this information can be used to evaluate the catchment area for the practice, using the ACORN classification (Gillam & Murray, 1996). ACORN is an acronym for A Classification Of Residential Neighbourhoods, and is a composite socio-demographic index derived from census variables. The advantage of this method over the Jarman and Townsend Indices is that the classification is available at enumeration district level as opposed to electoral ward level. Many electoral wards include pockets of deprivation, such as large estates alongside more affluent neighbourhoods. It is important to identify these areas of deprivation which may be obscured by a low Jarman or Townsend score at ward level.
Activity data

Information can be collected about the activity of hospitals, and health service activity in the community, including general practice. Used in this context, ‘activity’ means any episode involving contact with patients which is recorded by hand or on computer.

Hospital inpatient information

From each hospital, a minimum data set for each episode (defined as a period of care received under one hospital consultant) is sent to the Department of Health for collation into national statistics on hospital activity. This includes the speciality of care, diagnosis, admission and discharge date and details about the patient (Unwin et al 1997). The information on diagnosis, coded according to the International Classification of Diseases and/or the type of surgical intervention (OPCS codes), is often regarded as of doubtful accuracy, and activity in private hospitals is not included. A Minimum Data Set system for maternity is also available.

Hospital data are of some use in assessing health need, but their usefulness is limited by problems of lack of data accuracy and completeness and delays in publication (Murray & Gillam 1996). A further problem is that inpatient admission rates are not a proxy for morbidity in the community. A study by Payne et al (1994) showed that only two diseases (respiratory disease and depression) out of the seven diseases or procedures investigated showed a positive correlation between disease prevalence and hospital admission.

Health Service Indicators are available via the Department of Health, who publish a comparative information package on routine data submissions throughout the NHS. The package compares performance indicators of all provider units and health authorities, and can be obtained from the Department of Health, Room 1418, Euston Tower, 286 Euston Road, London NW1 3DN. Unfortunately, the data are at least 18 months old so should be verified with more recent data before being used to inform significant decisions.

Community information

The definition of health service activity in the community encompasses the activity of general practitioners and practice-based staff, and of all community health services. Annual practice reports to the health authority could potentially become a very valuable source of data, providing information collected in practice is from a validated, complete database.

Services to the community include:

- Vaccination and immunisation (Korner statistics);
- Family planning services (Korner statistics);
- Maternity and child health services (Korner statistics).

Health and disease data

In assessing health need, it is useful to obtain a picture of birth and death rates within the population of interest.
Birth rates

The Director of Public Health within each health authority is notified of all births in the district within 36 hours. The Public Health Common Data Set (PHCDS) contains local and national statistics on birth rates, abortions, infant mortality rates and maternal ages. These statistics are not recorded at the practice level, but may be a useful starting point if a group of special interest for a health needs assessment was teenage mothers. General fertility rates are measured as number of births per 1000 women aged 15-44. These rates can be calculated at the practice level over a five year period, and compared with national and regional figures available from the PHCDS.

Death rates

Information obtained from death certificates is processed nationally by the OPCS. The information is compiled to give district mortality rates which are reported to the Director of Public Health for each health authority. Some practices will have data on both birth and death rates.

When comparing death rates in different populations it is necessary to adjust crude death rate to take into account the age-sex structure of the populations being compared. Because women have a lower mortality than men, and because mortality increases with age in both sexes, it is necessary to find a way of allowing for differences in the age and sex structure of different populations. For example, many people retire to the coast, so death rates are understandably higher. We allow for this through calculating the standardised mortality ratio (SMR) for the given population. The SMR is defined as:

\[
SMR = \frac{\text{observed number of deaths}}{\text{expected number of deaths}}
\]

This figure is usually multiplied by 100 to create whole numbers. The SMR compares the actual death rate with the expected death rate. A standard population would have an SMR of 100, so that an SMR above 100 indicates an excess of actual deaths over expected deaths, while an SMR below 100 indicates fewer actual deaths than would be expected.

An alternative way of expressing mortality rates is given in the Public Health Common Data Set, which provides age-standardised mortality rates nationally, regionally and locally. The PHCDS is available from your health authority or local library. An example of the type of information available is shown in Table 7.

This table shows that rates of suicide and stroke in Grimsby and Scunthorpe are lower than the national average, but coronary heart disease is higher, which may be an interesting starting point for health needs assessment in the area.
Using patient records held within the practice

Sources of data within the practice include the practice computer, community nursing records (Korner returns), audit reports and Prescribing And Cost (PACT) data. Before interpreting data, one must understand the limits of its quality. Until all clinicians are recording all encounters, and all investigations, prescriptions and referrals are reliably entered, analyses of practice data must be viewed with some caution. PACT data is probably one of the most reliable sources of practice data, as most prescriptions are sent to the Prescription Pricing Authority (PPA), the only exception being private prescriptions. Prescribing information is fed back from the PPA to the practice on a three monthly basis, or as PACT-line data which is sent to the practice every month. Information regarding prescribing may be of use if a health needs assessment is concerned with a group of people with a particular disease, e.g. asthma or diabetes.

Clinical audit data can feed back into health needs assessment and inform the allocation of resources. It is a method used by health professionals to assess, evaluate, and improve the care of patients in a systematic way to enhance their health and quality of life. The same guidelines apply for using clinical audit as to all other data generated from within the practice. The audit may focus on a health promotion issue such as smoking. However, in order to use this data to inform decision-making, the data should be examined carefully and may need to be validated against manual records.

Mortality data

Statistics for mortality at a practice level are of limited value because of the small numbers involved. Cause of mortality is not routinely collected by many practices. However, if it is, an increase in mortality is an indicator of morbidity. Of more benefit in health needs assessment are geographical variations of some important diseases (see earlier section on 'health and disease data').

Morbidity data

Morbidity is ill-health, and in order to know the full extent of ill-health it is best to measure morbidity directly, rather than using mortality as a guide to the extent of morbidity. Morbidity
ranges in severity from short-term self-limiting illness (e.g. the common cold) through to chronic conditions that may be long term (e.g. arthritis) to fatal illnesses (e.g. cancer). In order to analyse patterns of morbidity, two concepts are necessary; incidence and prevalence.

**Incidence**

Incidence is the proportion of the population who are initially free of a condition who develop it over a specified period of time. The numerator of incidence is the number of new cases occurring in the time period, and the denominator is all susceptible people present at the start of the time period (Mulhall 1996).

\[
\text{Incidence} = \frac{\text{number of new cases in a fixed time period}}{\text{population at risk}}
\]

Incidence rates are useful to planners because they show how many newly diagnosed cases of a disease to expect each year. Changes in incidence rates indicate that a disease is becoming more or less common, or can be a marker of success for health promotion and disease prevention strategies.

An example of how to calculate incidence can be found in Table 8.

If you are planning a screening programme, disease incidence is of immediate interest, for example in determining the cost-benefit of the screening intervention. However, if you are concerned with the provision of services for people who already have a diagnosed health problem, the immediate question is ‘How many people have the disease at any point in time?’ You will now be concerned with prevalence. Prevalence is the proportion of a defined population who possess a particular condition at a given point in time (point prevalence), or period prevalence refers to the part of the population who possess the condition over a specified period of time.

\[
\text{Prevalence} = \frac{\text{number of existing cases}}{\text{total population}}
\]

In contrast to incidence, prevalence is determined at a single point in time. Prevalence rates indicate the burden of current disease, disability or handicap. Prevalence rates are particularly useful in identifying health needs of the chronically ill. The Fourth National General Practice Morbidity Study (MSGP4), conducted by OPCS in 1991, provides comparatives rates of incidence and prevalence. Practice rates are not always directly comparable, as MSGP4 data was based on consultations, not directly measured morbidity. However, this data is accepted as providing a useful basis for comparison in conjunction with data from other practices. It is possible to standardise the prevalence and incidence figures from a practice to allow for age and sex differences between practices to make more accurate comparisons, although in most cases the crude rates serve well enough.
Calculating incidence

Out of a population of 5604 people, 27 were newly diagnosed as having cancer in one year, with 62 patients having previously been diagnosed with cancer.

The annual incidence would be:

\[
\frac{27}{5542} \quad \text{or} \quad 4.8 \text{ cases per 1000 patients per year in a population of 5604.}
\]

This is obviously a very low figure, and it may be more helpful to calculate incidence in terms of cases per 10,000 population giving an incidence rate of 49 person years at risk. The Fourth National Morbidity Study expresses incidence as rate per 10,000 years at risk.

Table 8. Calculating incidence

Data completeness and accuracy

If the data from general practice computer systems are to be of value in health needs assessment, they must be complete and accurate. Evaluation of the practice database involves a few simple tests, including generating prevalence figures, as in Table 9, and comparing them with the national average. If the practice age-sex register is not skewed in any way, then a direct comparison can be made, for example the national average for asthma prevalence is about 10% of the population, and for diabetes mellitus is about 2%. Generally, the chronic disease registers are the most accurate in practices. If the health needs assessment is focusing on a particular 'group of special interest' (see Section 2), for example the diabetic patients in the practice, then this data, if accurate, can be very useful.

Lifestyle data is also improving with the advent of new patient clinics, well-men and women clinics, and elderly checks. These data will provide information about smoking, body mass index, blood pressure, alcohol intake, and family history. Family history information should, however, be used with caution as family history status can change over time. For example, if a health needs assessment is focusing on heart disease, then more reliable lifestyle data would be obtained from a questionnaire to patients. Again, if lifestyle data is recorded routinely by all clinicians, it should be checked for accuracy. This can usually be done by running the health promotion audit which is a built-in feature of most GP software systems.

Some diseases, such as diabetes, have a clear link with medication. The recording of diabetes can be checked in a practice by comparing the computer diagnostic register with the repeat prescribing system for all glucosuria and blood glucose diagnostic tests and for all hypoglycaemic agents, including insulin. Where discrepancies are found, the manual records can be checked, and the diagnosis added to the computer records if appropriate. This method can also be used with hypothyroidism and thyroxine prescription, and epilepsy and anti-epileptics (assuming that there is not a valid reason for prescribing an anti-epileptic for any other condition). Auditing these computer-based records will provide an indicator of the general standards of accuracy in the practice information systems.
There are a number of reasons for the prevalence of different disease rates to vary between practices as well as the accuracy and completeness of data. Exercise 1 asks you to explore some figures to identify these reasons.

EXERCISE 1

The national figures shown in Table 9 are from the Fourth National Morbidity Study. This table shows the prevalence of 10 major diagnoses, using computer diagnostic registers from different practices using the EMIS software system. Prevalence is reported as the percentage of the population with the diagnosis.

Consider the three questions below, bearing in mind all the information available to you from external and internal sources:

Does this table provide useful information in isolation? If not, what further information would be of benefit in analysing the levels of different diagnoses?

The table shows that Windmill Hill have a greater number of people with the diagnosis of asthma compared with national figures, whereas Camberwick Green are lower. What further information would be useful in considering the reasons why, and what are the implications for diagnosis and recording?

There are no national figures for depression. Can you suggest why, and consider the reasons for the large inter-practice variation in the prevalence for depression?

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>Average of four other practices n= 37455</th>
<th>Camberwick Green n= 10552</th>
<th>Windmill Hill n= 5745</th>
<th>National figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>6.5</td>
<td>7.4</td>
<td>10.6</td>
<td>9.1</td>
</tr>
<tr>
<td>CHD</td>
<td>3.0</td>
<td>3.2</td>
<td>5.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Dementia</td>
<td>0.1</td>
<td>0.2</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Depression</td>
<td>5.5</td>
<td>2.7</td>
<td>8.9</td>
<td>-</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>2.1</td>
<td>1.8</td>
<td>2.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>0.5</td>
<td>0.8</td>
<td>1.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Hypertension</td>
<td>5.8</td>
<td>6.8</td>
<td>8.1</td>
<td>10.3</td>
</tr>
<tr>
<td>Multiple Sclerosis</td>
<td>0.2</td>
<td>0.1</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Osteoarthritis (knee)</td>
<td>1.6</td>
<td>2.1</td>
<td>2.9</td>
<td>-</td>
</tr>
<tr>
<td>Stroke (ever)</td>
<td>1.1</td>
<td>1.3</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Stroke in last 2 years</td>
<td>0.3</td>
<td>0.07</td>
<td>0.5</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 9. Prevalence of common diseases diagnosed in general practice.
Section 4: Methods of collecting primary data

In this section we consider the use of four different approaches to the collection of primary (empirical) data: observation, interviews, focus groups and surveys. Practical guidance on using each approach is provided and the reader will be encouraged to undertake the suggested exercises.

The approaches to data collection described in Section 3 are very good ways of identifying major issues and measuring the size of the problem. However, there are times when we need to know more about the background or about the impact of these problems. As we have seen, public and practice records can tell us about the main health problems and the numbers of people suffering from these problems. However, they do not tell us about the impact of these problems on the lives of individuals. When more detailed information of this type is required, consideration should be given to using first-hand methods of data collection. In this section we will consider four approaches to data collection which can be used in health needs assessment:

- direct observation;
- surveys;
- individual interviews;
- focus groups.

Quantitative data provide answers to questions about measurable things: how much? how many? how often? to what extent? Qualitative data enables us to understand the background or impact to such information and helps to answer questions such as: why? how? in what way? Interviews and focus groups are frequently utilised methods for collecting qualitative information. Surveys and direct observation can be used to collect either qualitative or quantitative data.

Direct observation

Not all methods of primary data collection require contact with human beings. Observation of the environment can provide valuable background information about the area where a health needs assessment is taking place. Observation can also serve as a technique for verifying or questioning information provided in face to face encounters.

Direct observation can include broad descriptions of the key features of the area. For example, whether the area is inner city, urban or rural; the geographical location; the size of the population. It can describe the key components of the area: the main industries; type of housing. The availability of services can be identified: number, type and location of health care facilities such as hospitals and health centres; leisure facilities; shopping centres. Observations can also be more detailed, focusing on the physical features of a locality and their relevance to a particular health issue. For example, if the focus was on accident prevention among children, observations would include roads, gardens, public playing areas.
Table 10 lists some of the features on which observation data might be collected as part of a health needs assessment.

<table>
<thead>
<tr>
<th>Observation category</th>
<th>Examples of information for inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>General appearance</td>
<td>City, urban or rural</td>
</tr>
<tr>
<td></td>
<td>Size</td>
</tr>
<tr>
<td>Population</td>
<td>Factors likely to affect make up of population e.g. elderly person's housing (older people); university (young people)</td>
</tr>
<tr>
<td>Leisure</td>
<td>Leisure centres, entertainment facilities</td>
</tr>
<tr>
<td>Health services</td>
<td>Location of nearest hospital(s)</td>
</tr>
<tr>
<td></td>
<td>Number and location of general practices</td>
</tr>
<tr>
<td></td>
<td>Facilities provided by health centres</td>
</tr>
<tr>
<td>Housing</td>
<td>Ratio of owner occupiers to tenants</td>
</tr>
<tr>
<td></td>
<td>Types of housing</td>
</tr>
<tr>
<td>Income levels</td>
<td>Types of employment</td>
</tr>
<tr>
<td></td>
<td>House prices</td>
</tr>
<tr>
<td></td>
<td>Types of shops</td>
</tr>
<tr>
<td>Communications</td>
<td>Transport facilities</td>
</tr>
<tr>
<td></td>
<td>Major roads</td>
</tr>
<tr>
<td>Retail outlets</td>
<td>Types of shops and price range</td>
</tr>
<tr>
<td></td>
<td>Food outlets (e.g. fast food)</td>
</tr>
<tr>
<td>Work related</td>
<td>Major industries</td>
</tr>
<tr>
<td></td>
<td>Facilities for the unemployed</td>
</tr>
</tbody>
</table>

Table 10. Features for inclusion in observational data.

It may be possible to include photographs or even to use video technology when using observational data to illustrate a community profile. It is also possible to directly observe the work of primary care practitioners as they interact with their clients. See the Trent Focus resource pack: How to Use Observation in a Research Project for further information and ideas.
Table 10 lists some of the features that might be observed and included in a health needs assessment. Make your own copy of the table with the contents of the right hand column deleted. Think about the area where you live and make notes about the key features using the categories listed in the left hand column.

**Surveys**

In health needs assessment, much information can be gained through analysing routinely available statistics and observing the neighbourhood. However, you may also need to ask some direct questions of the people you are concerned about. Perhaps you want to know what social support is available to carers in your neighbourhood, for example, or how many older people cannot shop for themselves. You may wish to identify gaps in the services your health centre provides, or to find out how many people are interested in getting fit or eating more healthily.

The survey is a method of gathering information which will immediately spring to mind. We are all familiar with this technique, having no doubt been stopped on the high street and asked to give our opinion on everything from new flavour chocolate bars to the state of the economy. If we have used the health service ourselves in recent years, we may well have filled in a questionnaire to let the service providers know what we think of them. A survey can be defined very simply as the collection of information in a standardised form from groups of people. Typically, the researcher surveys a selection of individuals from a known population and collects a relatively small range of data (Robson, 1993). The survey method is usually based on a questionnaire that can be completed by the respondents themselves, or in a structured interview conducted by the researcher or their assistants. The four main methods of collecting survey data are:

- face to face interviews;
- telephone interviews;
- postal surveys;
- self-completion questionnaires.

**Why carry out a survey?**

Surveys can be carried out for *descriptive* purposes. The decennial census is a good example of a descriptive survey. It asks a range of questions about households and the individuals within them which can then be used to *describe* the population. In health needs assessment, you may wish to carry out a survey which asks people to tell you about their housing or employment situations; you will then be able to use this information to profile your target population in greater depth than routinely collected information allows.

You may also carry out a survey to explore the *consumer view*. You may wish to find out about peoples’ views of the services your health centre, or ask them to express their own understanding of their health needs.

Surveys can be also be used to *analyse* the relationship between ‘variables’, or different elements of the information you have collected. At this point, survey design gets more complicated and requires some understanding of the statistical techniques used for data analysis.
Designing a survey

Before you embark on a survey, it is essential that you reflect on what exactly it is you are hoping to achieve. Exercise 3 will help you to do this by asking you to work through a number of relevant questions. The advantages of survey research are that studies can be designed to cover large numbers of people; it is possible to generalise to the larger population through appropriate sampling, and standardised data can be easier and quicker to analyse. However, in assessing health need we must always remember that people might be influenced by how they are feeling at that moment, or immediate problems among their family and friends. Also, respondents may have difficulty in evaluating their needs if they have no knowledge of how services could be provided differently.

The discussion above is limited, and it is suggested that you obtain advice before embarking on a survey which will be very demanding of time and money. Readers are referred to the Trent Focus resource pack entitled How to Use Surveys and Questionnaires for further information.

EXERCISE 3

WHO do you want to ask?

Returning to Section 2, identify the population of interest in your project. Are you identifying a group at a particular stage of the life cycle, or who share a set of health needs related to their illness? Are you going to ask the whole population - for example, all diabetics registered with your practice? Or do you need to select a sample of the whole population, for example of people aged 65 and over?

HOW will you ask?

What method are you going to use within the overall survey design? A face to face or telephone interview? A self-completion or postal questionnaire?

WHAT will you ask?

Developing the questions for your questionnaire requires a lot of work and meticulous attention to detail. You will need to conduct at least one pilot study to test your questions on other people. What is obvious to you may not be to someone else - ambiguities need to be identified before the study begins.
Individual interviews

Interviews can be highly structured, semi-structured or unstructured. *Structured interviews* consist of the interviewer asking each respondent the same questions in the same way. A tightly structured schedule of questions is used very much like a questionnaire. The questions may even be phrased in such a way that a limited range of responses can be elicited. For example: "Do you think that health services in this area are excellent, good, average or poor?" Bearing in mind the cost of conducting a series of one to one interviews, the researcher planning to use structured interviews should carefully consider whether the information could be more efficiently collected using questionnaires.

*Semi-structured interviews* (sometimes referred to as focused interviews) involve a series of open-ended questions based on the topic areas the researcher wants to cover. The open-ended nature of the question defines the topic under investigation but provides opportunities for both interviewer and interviewee to discuss some topics in more detail. If the interviewee has difficulty answering a question or provides only a brief response, the interviewer can use cues or prompts to encourage the interviewee to consider the question further. In a semi-structured interview, the interviewer also has the freedom to probe the interviewee to elaborate on the original response or to follow a line of inquiry introduced by the interviewee. A example would be:

Interviewer: "I'd like to hear your thoughts on the health needs of different age groups. Let's start with children. What do you see as the main health problems of children in this neighbourhood?"

Interviewee: "The normal childhood illnesses."

Interviewer: "What do you mean by the normal childhood illnesses? Can you give me some examples, please?"

*Unstructured interviews* (sometimes referred to as "depth" or "in-depth" interviews) have very little structure at all. The interviewer goes into the interview with the aim of discussing a limited number of topics, as few as one or two, and frames the questions on the basis of the interviewee's previous response. Although only one or two topics are discussed they are covered in great detail. The interview might begin with the interviewer saying: "I'd like to hear your views on the health needs of people in this area". Subsequent questions would depend on how the interviewee responded. Unstructured interviews are exactly what they sound; interviews where the interviewer wants to find out about a specific topic but has no structure or preconceived plan or expectation as to how they will deal with the topic. In semi-structured interviews the interviewer has a set of broad questions to ask and may also have some prompts to help the interviewee but the interviewer has the time and space to respond to the interviewee's responses.

Qualitative interviews are usually semi-structured or unstructured. If the interview schedule is too tightly structured this may not allow the phenomena under investigation to be explored in terms of either breadth or depth. Semi-structured interviews tend to work well in health needs assessments as the interviewer can decide in advance what areas to cover but is open and receptive to unexpected information from the interviewee. Interviewees should feel as though they are participating in a conversation or discussion rather than in a formal question and answer format, however, achieving this informal style is dependent on careful planning and on skill in conducting
HEALTH NEEDS ASSESSMENT IN PRIMARY CARE

the interview. More information on the skills required of the interviewer can be found in the Trent Focus resource pack on *How to Use Interviews in a Research Project*.

An example of an interview schedule is shown in Table 11. This was used in a general practice based health needs assessment carried out in Grimsby.

Semi-structured interviews should not be seen as a soft option requiring little forethought. Good quality qualitative interviews are the result of rigorous preparation. The development of the interview schedule, conducting the interview and analysing the interview data all require careful consideration and preparation.

<table>
<thead>
<tr>
<th>Main questions</th>
<th>Prompts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think the people in Grimsby are healthy?</td>
<td>Individual age groups, lifestyle, special needs groups, worst problems/highest priority.</td>
</tr>
<tr>
<td>What do you think are the main health problems in this area?</td>
<td>Unemployment, single parent/teenage pregnancy, poverty, drug/alcohol abuse, housing.</td>
</tr>
<tr>
<td>What are the main social problems in Grimsby?</td>
<td>Different services, hospital, GP, social services, community services, allocation of resources, accessibility, acceptability.</td>
</tr>
<tr>
<td>Do you think the health and social services are meeting the needs of the local community?</td>
<td>Health facilities, community clinics and screening, social/leisure facilities, accessibility.</td>
</tr>
<tr>
<td>Do you think there are enough community facilities to keep people healthy?</td>
<td></td>
</tr>
<tr>
<td>If you had a magic wand, could you suggest one change you would like to make to the health service?</td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Example of an interview schedule.

**Focus Groups**

Sometimes it is preferable to collect information from groups of people rather than from a series of individuals. Focus groups represent a method of data collection which has been widely used in the private sector over the past few decades, particularly in market research. Focus groups are increasingly used in the public sector to obtain the 'user voice' in the evaluation and planning of services. In general, focus groups share the characteristics outlined below.

1. The recommended size of a group is of 6 to 10 people. Smaller than this limits the potential for collecting useful information. More than this makes it difficult for everyone to participate and interact.

2. Several focus groups should be run in any health needs assessment. It would be wrong to rely on the views of just one group. The group may be subject to internal or external factors of which the investigator is unaware which can lead to idiosyncratic results. Individual groups may not go very well: the members may be reluctant to participate or not interact well with
each other and limited insight will be gained. Sufficient groups should be run to provide adequate breadth and depth of information but a small number of groups may achieve this, as few as three or four. There is no upper limit on the number of focus group interviews that could be held although this will be limited by resources.

3 The members of each focus group should have something in common, characteristics which are important to the topic of investigation. For example, they may all be members of the same profession or they may work in the same team. Participants may or may not know each other. There are advantages and disadvantages to both.

4 Following on from (3), focus groups are usually specially convened groups. It may be necessary or even desirable to use pre-formed groups but difficulties may occur. This is usually due to the pre-existing purpose of the group which can lead to the group having a particular perspective or bias which limits their potential for providing information. For example, pressure groups or groups with some political basis.

5 Qualitative information is collected which makes use of participants' feelings, perceptions and opinions. Just as in individual interviews, data collection and analysis is time consuming.

6 Using qualitative approaches requires the researchers to possess a range of skills in facilitating and moderating, listening, observing and analysing.

Focus groups have a great deal of potential in the process of health needs assessment. They can be held at an early, exploratory stage when initial clues and insights are needed or when there is a lack of communication between people which could be overcome by facilitating discussion. For example, the views of both parents and teachers on the health needs of young people could be explored in a focus group. Part of the discussion might include the expectations that each group has of each other in terms of the type of information they expect young people to be provided with. Focus groups can be particularly useful when the research team wants to collect ideas about the type of services which should be provided after identifying health needs. For example, after identifying a need for a mobile well-woman or well-man clinic in rural areas, a focus group could explore what sort of services should be provided or which geographical areas are in most need.

**EXERCISE 4**

Imagine that you want to undertake a health needs assessment about a particular patient or client group you deal with as part of your work. It may be a group defined by age or clinical problem. You want to collect information using focus groups composed of members of your own professional group. Consider the following questions:

What is the geographical spread of your potential participants?

Are there any specific inclusion criteria for selecting participants?

Where or how could you obtain a list of potential participants?

Are there any pre-existing groups and what are the advantages and disadvantages of using members?
For further information, the reader is referred to the Trent Focus resource pack on *How to Use Interviews in a Research Project*. Also, Kreuger (1994) provides an excellent practical guide to using focus groups.

**Combining Data Collection Methods**

Health needs assessment is best carried out using a combination of methods. Often, quantitative and qualitative data complement each other by providing insights into the size and nature of health needs. Comprehensive health needs assessment which promote community participation and development can be very demanding in terms of time and commitment. Rapid appraisal is a technique which has been developed to obtain information about a set of problems in a short period and without a large expenditure of professional time and finance (Ong, 1996).

Rapid appraisal is the first step in the process of planning health interventions for specific communities. Information is collected from existing records and from mapping the social and environmental characteristics of the area. However, the techniques used in rapid appraisal also access the 'user voice' and explore the community's own perceptions of need and priorities. The strength of feeling among local residents is assessed through semi-structured interviews with the following 'key informants':

- professionals working in the community such as teachers, police officers and health visitors;
- elected and self-elected leaders such as the local MP, councillors and leaders of tenants' associations;
- people who are important within informal networks and who play a central role in local communications such as shopkeepers, hairdressers and publicans.

Rapid appraisal is carried out by a team of researchers, whose members may include primary health care professionals, representatives of health authorities and representatives of local authorities from a wide range of departments. As well as being a relatively quick and focused approach to health needs assessment, rapid appraisal also reflects the primary health care principles of equity, community participation and multi-sectoral co-operation. However, it is worth bearing in mind that this approach can identify conflicts within the neighbourhood as well as key priorities. For example, primary health care practitioners may wish to expand the service they offer to homeless people, whereas local residents may want to see fewer 'rough sleepers' using local hostels. Despite this warning, the techniques used to carry out a rapid appraisal do allow unmet needs and local priorities to be identified. The data obtained can be used to construct an information pyramid, which will be discussed in Section 5 of this pack.

**Summary**

Health needs assessment can be carried out using a variety of methods. It is important that the method(s) selected are appropriate to: the type of information required, the population being assessed and the resources of the research team. Exercise 5 provides an opportunity to consolidate your understanding of the advantages and disadvantages of the different methods.
EXERCISE 5

Look at the proposed health needs assessment projects listed below. In each case consider the kind of information required, appropriate methods for collecting data and the resource implications of the selected approach. You may consider your response from a practice, locality or district perspective.

Project 1: an assessment of the needs of teenage mothers.

Project 2: plans to develop health promotion services for men.

Project 3: a comprehensive health check system for over 75s.
Section 5: Putting health needs assessment into practice

This section explores the interpretation of data collected in health needs assessments and considers how the findings can be used to plan services.

Interpretation of data

Before interpreting data collected in a health needs assessment, one must understand the limits of its quality. For example, practice data (as described in section 3) must be properly validated before being relied on, the quality of data retrieved reflects the quality of data entry. It might be supposed that external data, such as census data is much more accurate. However, no survey has a complete response rate, especially questionnaires. The census is more complete than most, but it had a low response in inner cities and among ethnic minorities. All data sources have limitations, which become more obvious as the scientific accuracy with which data are analysed increases. Nevertheless, health needs assessment deals in rounder, larger verities which recognise limitations while making the best of all information available.

Triangulation can be used to both analyse and present results. Triangulation refers to the use of a combination of approaches to explore one set of research questions, as is often appropriate in health needs assessment. Triangulation can refer to a combination of different methods, or to the different data sources used to explore the same phenomenon. It is a process for judging the validity of the different methods and sources by comparing them (Mason, 1996).

Given the speculative nature of much of the data used in health needs assessment, ‘fact’ is hard to establish from a single source. Whenever possible, more than one data source should be explored to substantiate a conclusion. In some instances, such robustness is not possible, but one reason for adopting a range of methodologies and tapping a number of sources is to increase the reliability and validity of data. Some examples of triangulation of data are listed in Table 12.
Deprivation

<table>
<thead>
<tr>
<th>Practice Data</th>
<th>External Statistics</th>
<th>Rapid Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>60% of population are social classes 3M, 4 &amp; 5, compared with national average of 46%. Jarman and Townsend index shows the practice covers wards that are more deprived than the general area, and the average for England and Wales</td>
<td>High unemployment, teenage pregnancies and single parent families.</td>
<td></td>
</tr>
</tbody>
</table>

Lifestyle

<table>
<thead>
<tr>
<th>Practice Data</th>
<th>External Statistics</th>
<th>Rapid Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% of men &amp; 35% of women smoke</td>
<td>National and local average of 30%</td>
<td>Poor diet, lack of exercise, high alcohol intake, and high levels of smoking and drug abuse.</td>
</tr>
</tbody>
</table>

Morbidity

<table>
<thead>
<tr>
<th>Practice Data</th>
<th>External Statistics</th>
<th>Rapid Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>No practice data to support this as numbers would be too low to draw useful conclusions</td>
<td>Coronary heart disease age standardised mortality rate is 65 per 100,000 per year compared with a national level of 53</td>
<td>Coronary heart disease, respiratory problems and mental health problems.</td>
</tr>
</tbody>
</table>

Workload

<table>
<thead>
<tr>
<th>Practice Data</th>
<th>External Statistics</th>
<th>Rapid Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>High list size per doctor (approx 2,500)</td>
<td>National average list size of 1800</td>
<td>Generally interviewees were complimentary about primary care services and acknowledged that patients received high quality care.</td>
</tr>
</tbody>
</table>

Chronic disease management

<table>
<thead>
<tr>
<th>Practice Data</th>
<th>External Statistics</th>
<th>Rapid Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% of patients with hypertension, and 72% with hypertension had been reviewed within the last year.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 12. Triangulation in health needs assessment.

The concept of an information pyramid

The various forms of information collected in an health needs assessment can be brought together to form an information pyramid. This concept has its origin in rapid appraisal (Annett & Rifkin, 1988) but the principle can be applied to health needs assessment where other methods have been used. The pyramid shape reminds health managers that success depends on a planning process which rest on a strong community information base, and that the amount of information needed about each area is relative to its position in the pyramid. It is the quality of the information not the quantity that is most crucial.
The foundation of the pyramid is built on information about community composition, organisation and capacity to act. As the planning process is based on community involvement and contribution to a plan of action for health improvements, it is necessary for health workers to know about the community in which they are working including the strengths and weaknesses of the community leadership, organisations and structures.

Figure 1. Information pyramid.

The next level describes the socio-ecological factors which influence health, including the physical environment, socio-economic conditions and disease and disability. Information at this level is required in order to investigate the potentials and barriers which exist for community improvements. Data on the physical environment seeks to identify any environmental causes of disease and disability, for example problems such as overcrowding and pollution. Data on the social aspects focuses on traditional beliefs and values which facilitate or impede behavioural changes. An analysis of economic aspects highlights income sources, earning potential and the economic opportunities of various community groups.

The third level concerns data on the existence, coverage, accessibility and acceptability of services. These include health services, environmental services and social services such as education and assistance for the disabled. The final level at which some general knowledge is required is that concerning national, regional and local policies about health improvements. Information on these policies will provide background on the "political" commitment to primary health care. Making a case that the findings of the health needs assessment are directly related to problems and priorities recognised at policy making levels will increase the likelihood that resources will be allocated or diverted.

**Using the results in practice**

Once the data for health needs assessment has been collected and analysed it is possible to seek solutions to the identified problems. Many ways of identifying priorities involve a form of ranking. They include prioritising based on the size of the health problem (prevalence and incidence), its severity in terms of morbidity or mortality, the availability of effective interventions, the feasibility of the work entailed for the primary health care team, the level of group interest and the costs and resources required (Gillam & Murray 1996). The prioritising process should include as many of the primary health care team as possible, in order to take
Account of current workload and set realistic targets. Audit and evaluation is an integral part of the planning cycle, it answers the question of ‘whether you have got where you want to go’, and should be specifically focused on the priority needs identified, rather than personal interest or choice.

During the process of health needs assessment, team members will probably have developed ideas about how to tackle the problems identified. When the team reaches this stage they must decide what interventions they are prepared to undertake. Annett and Rifkin (1988) suggest that information collected by rapid appraisal techniques provide a wide variety of data which can be used to develop a feasibility matrix which enables planners to decide the priority on which to place suggestions for future actions. Each intervention can be examined for the following characteristics:

- **Health benefit**: What is the overall health impact?
- **Community capacity**: How committed is the community to solving the problems and what can they contribute to the solutions?
- **Sustainability**: Can the intervention be maintained and at what cost?
- **Equity**: Which income groups are likely to benefit most?
- **Cost**: What are the initial capital and manpower costs?
- **Time for benefit**: How long will it be before changes are noticeable?

Each intervention is scored as "+" for low, "++" for medium, "+++" for high. The highest total score is given the highest priority.

Table 13 provides an example of how a priority matrix was used to consider whether or not to set up a community based women’s health group following a locality based health needs assessment. As the table shows, the proposed intervention scored a maximum +++ in four out of six categories and ++ in the remaining two. The Women’s Health Group appears to be highly feasible. Whether or not it would be identified as a priority would depend on how it compares with other proposals.
HEALTH NEEDS ASSESSMENT IN PRIMARY CARE

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Relevant considerations</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health benefit</td>
<td>The group can address a wide range of health issues concerning women and their families.</td>
<td>+++</td>
</tr>
<tr>
<td>Community capacity</td>
<td>Many women have said they would like a group but they might not feel able or wish to make lifestyle changes.</td>
<td>++</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Two health promotion specialists employed to deal with Women’s Health are currently half way through two year contracts so staff are available for at least the next year. Premises not a problem - local community centre. Maintaining a membership might be a problem.</td>
<td>++</td>
</tr>
<tr>
<td>Equity</td>
<td>All income groups have expressed a need. Lower social groups resident in locality can easily access community centre. Creche facilities could be made available.</td>
<td>+++</td>
</tr>
<tr>
<td>Cost</td>
<td>Minimal start up costs. Health Promotion Specialists already employed and experienced at group work in other localities.</td>
<td>+++</td>
</tr>
<tr>
<td>Time for benefit</td>
<td>Take up of breast screening and cervical screening immediately quantifiable. Other outcome measures would need to be developed.</td>
<td>+++</td>
</tr>
</tbody>
</table>

Table 13. A priority matrix assessing the feasibility of a Women’s Health Group.

The role of the primary health care team

It has already been stated that health needs assessment should be carried out by teams to ensure commitment to the principles behind the process. Using the findings to plan services should also be a team activity. The information collected may suggest the need for changes in the way services are organised and delivered. This may include suggestions about who provides a particular service. For example, it may be that work undertaken by GPs could be undertaken by practice nurses or that clinical staff are involved in clerical tasks which would be more cost effectively performed by administrative staff. Sharing the results of the health needs assessment among the team and discussing as a team possible ways of responding will help everyone to understand why change may be necessary and of mutual benefit. One way to get the whole team involved is to organise an “Away Day” where group facilitators enable all team members to consider the results of the health needs assessment, identify priorities and start to plan.

Conclusion

Primary health care professionals would not wish to undertake a health needs assessment unless there were clear benefits to be achieved. Decisions must be taken which affect the range and quality of primary care services which their patients receive. The information pyramid can help community health professionals to focus on the ‘what, why and how’ of health needs assessment in primary care.
Primary care is facing an agenda for change which is both exciting and alarming. Practitioners need, more than ever, to understand the principles of clinical and cost effectiveness, efficiency and equity in health care provision. Primary care is being asked to lead the National Health Service into the next century. Needs assessment is the cornerstone of primary-care led purchasing and commissioning, and the key to service provision which is sensitive to local conditions. A successful health needs assessment will utilise the appropriate methods to collect the appropriate data, and will follow through with a genuine commitment to improving the public health.
Answers to exercises

Many of the exercises for this pack are to a large extent based on self-selected examples, it is often not feasible therefore to provide specific answers. You should, however, draw on the guidelines provided in the text when approaching them.

Exercise 1

a) Age-sex register for all practices.
   - are there any age-groups under or over-represented?

b) Age-sex register of practice populations.
   - do all clinicians record all diagnoses in a standard, retrievable way?
   - is there an asthma clinic, with a specialist asthma nurse at any of the practices?
   - are patients encouraged to attend clinics, and are rates of diagnosis therefore increased?
   - does Camberwick Green have a protocol for asthma?

c) Depression diagnosis has a certain stigma which GPs may be reluctant to attach, therefore figures are low and depression is under-represented. As practices may not record on the computer all cases of depression, it is difficult for studies such as MSGP4 to collect and compare data accurately. There are many different Read codes for depression, and diagnosis is subjective. Inter-practice variation can be accounted for by all these factors.

Exercise 5

Project 1:
- demographic or practice data on the number of teenage mothers locally;
- deprivation scores in the areas where they live;
- focus groups with teenage mothers;
- focus groups or individual interviews with people who come into contact with young mothers.

Project 2:
- epidemiological data about the main health problems affecting this group, compared with local or national averages;
- individual interviews to consider health promotion approaches;
- survey of men registered in the practice(s) to assess potential uptake.

Project 3:
- epidemiological data about the main health problems affecting this group, compared with local or national averages;
- postal survey or face-to-face interviews as part of current health check to assess unmet need
References


Payne JN, Coy J, Patterson S et. al. (1994) Is use of hospital services a proxy for morbidity? A small area comparison of the prevalence of arthritis, depression, dyspepsia, obesity and respiratory
disease with inpatient admission rates for these disorders in England. Journal of Epidemiology and Community Health. 48, 74-78.


Further reading and resources


Fox N (1997) How to use observation in a research project. Trent Focus.


Health Needs Assessment Studies

You should be able to find information about health needs assessments undertaken locally by contacting your health authority, local authority, NHS community trust, university department s of general practice, primary care or public health. Examples include:


**Health Authorities**

Every health authority holds information on local, regional and national morbidity and mortality figures. This information can be found in documents such as the Public Health Common Data Set and the Fourth National Morbidity Study.

Some health authorities may prepare additional information based on locality profiles. For example, Nottingham Health Authority have produced “Health Maps of Nottingham” which analyses census data, deprivation rates, morbidity and mortality rates by electoral ward.

**Local authorities**

Local authorities hold Census data and they may have analysed the data contained within the Census at electoral ward level.