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Equity of Access to Health Care

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EQUITY OF ACCESS TO HEALTH CARE

by

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INTRODUCTION

The election of the Labour government last year shifted the issue of inequality in health to the top of the policy agenda. In its White Paper on the "New NHS", promises were made about reducing unacceptable variations in services and ensuring fair access. Publication of the Green Paper "Our Healthier Nation" also reinforced the government's aim of narrowing the health gap. Several national initiatives also have this aim, including the £30 million investment in Health Action Zones which are to target health inequalities and the establishment of a public inquiry into health inequalities, chaired by Sir Donald Acheson.

However, much of the action required to tackle inequality will have to be undertaken at a local level. Indeed, the White Paper gave Health Authorities, in conjunction with other organisations inside and outside the NHS, the key task of improving health and reducing inequalities through their Health Improvement Programmes. If this task is to be manageable, those in the NHS will need to disentangle the many and complex strands involved in understanding the issue of inequality in health.

This report attempts to clarify what is known in relation to one of the issues - equity of access to health care services - and to draw out the policy implications of the research on this topic. Following an overview of methodological issues, research evidence on the extent and cause of inequities of access to services in the following five areas is summarised and analysed: GP consultations, acute care, mental illness, prevention and health promotion and long term care. The policy and research implications are drawn out and some suggestions for future directions are made.

The report is aimed at both policy makers and academics interested in the state of existing research and in designing and implementing their own studies into equity of access.

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SECTION 1

OVERVIEW

The purpose of this report is to review recent research evidence relating to equity of access to health care in the English National Health Service. The terms of reference for the review were:

1. to set out the evidence of inequities in access to health care in England;
2. to delineate the factors leading to inequity in access to health care and identify barriers to equity of access;
3. where possible, to examine successful interventions and strategies for reducing inequities of access to health care where these have been identified in the studies examined.

This report is based on a review commissioned in September 1997 by the Department of Health as part of the Comprehensive Spending Review on Equity of Access to Health Services. An amended version was also later submitted to the Acheson Inquiry into Health Inequalities. It focuses on equity in the form of equality of *access* to health care. It is important to recognise that this is not necessarily the same thing as equality of *treatment* or equality of *health outcome*. Equality of access is purely a supply side consideration, in the sense that equal services are made available to patients in equal need. Equality (or inequality) of treatment arises from the interaction between supply and demand, in the sense that it depends on the preferences, perceptions and prejudices of both patient and health care provider. Equality of health outcome depends on many factors other than receipt of health care.

The study explores the extent to which particular groups within the population suffer from empirically verified systematic inequity in access to health care. The basis of the groupings are:

- by geography (for example, by region; or urban *vis a vis* rural areas);
- by social group (for example social class; occupation; income);
- by ethnic group;
- by sex;
- by age.

It is important to note that we have been asked to examine only systematic inequities of this sort. In addition to any systematic effects, substantial "random" inequity may also arise in the NHS because of factors such as variations in medical practice and historical accident. However, we do not consider inequities arising from such sources unless they systematically affect some population groups more than others.

The research was undertaken within a very compressed timetable. Therefore it must be emphasised that, although extensive, the review cannot claim to be either systematic or comprehensive. Full details of the search strategy adopted are given in the Appendix. In summary, it comprised a computer search of various bibliographical databases for publications since 1990; contacts with Directors of

Research and Development at each of the NHS regional offices; approaches to known researchers in the field; and approaches to a variety of charities and professional organisations.

In practice, we have found that almost all empirical studies relevant to this review have examined, at least in the first instance, inequalities in treatment rather than inequalities of access. Section 2 therefore offers a theoretical framework within which to evaluate such empirical work. It notes three key areas that give rise to difficulties of interpretation:

1. treatment of differences in need within the population - different groups might experience substantial differences in health care needs, so that in examining variations in utilisation, allowance should be made for variations in need;
2. measurement of utilisation - in practice many measures of utilisation (such as a hospital episode) are crude and may disguise substantial variations in quality of care;
3. interpretation of results - variations in utilisation may arise from a complex interaction of supply and demand factors, and for policy purposes it is imperative to seek to disentangle the nature of such determinants.

The remainder of the report examines various aspects of NHS care in the light of the framework set out in section 2. The health care sectors examined are:

- general practitioner consultations;
- acute hospital care;
- mental illness;
- preventative medicine and health promotion;
- long term health care.

For each sector, the recent research literature is summarised, and the various supply and demand influences on utilisation are discussed. A summary of the findings and main issues arising in each health care sector precedes the main report in each section.

In interpreting these results it is important to note that some sectors have received substantially more research attention than others. To some extent, these variations reflect the relative difficulty of researching certain sectors, particularly those relating to community-based services, those which relate to a heterogeneous clientele, and those for which there exists a variety of alternative modes of delivering services. Indeed, it is noteworthy that these characteristics also offer great potential for inequity. It is therefore very important to recognise that an absence of research evidence should not be interpreted as an absence of inequities, and might indeed be an indication of the potential for particularly severe inequities.

Furthermore, it is important to note the methodological weaknesses found in many of the studies reviewed here. The overall conclusions we present here and at the beginning of each section are based, where possible, on the results from studies

which attempt to control for “need” and also include other variables which might reasonably be expected to influence utilisation, in addition to the specific factor in which the authors are interested.

It is also important to note that exceptionally high utilisation of health care might in some circumstances be just as much a cause for concern as exceptionally low utilisation. Any judgement we come to in relation to inequities must therefore be a matter of personal judgement, rather than definitive. We nevertheless feel that there are certain areas in which there is clear evidence of inequalities in utilisation even after adjusting for “need”. This gives strong *prima facie* evidence of the existence of inequity:

1. Minority ethnic groups experience some inequity even after allowing for “need” and for the influence of socio-economic factors on utilisation. The most serious problems appear to be high rates of utilisation of particular types of care for schizophrenia (compulsory detention and physical treatment) amongst young male Afro-Caribbeans which may be indicative of inappropriate care; low rates of GP consultation for people of Chinese and African origin and for young Pakistani females; and low rates of outpatient attendance amongst most ethnic minority groups, especially the Chinese. The latter group appear to have very low rates of utilisation of most services but there is insufficient research on health status and health service use amongst the Chinese to judge how serious this issue is. There is some evidence that some minority ethnic groups receive less referrals and surgical treatment for coronary heart disease (CHD) than equivalent white groups. There do not appear to be systematic inequities associated with ethnicity in relation to access for cancer screening and immunisation once socio-economic factors have been taken into account.
2. In terms of socio-economic status, although there appear to be no systematic inequities in the aggregate level of GP consultations or outpatient and inpatient attendances, there are two caveats which suggest this might not give the full picture. First, inequities of access do appear to exist at specialty level and there is evidence of inequities in investigation and treatment rates for some elective surgery and also for CHD for those in more disadvantaged groups. Second, there is evidence to suggest that analysis by “need” categories which assumes homogeneity in health status *within* these categories may be biased. The number and complexity of health disorders within each need category has been shown to be greater in poorer groups than in more well-off groups. Thus it is possible that real inequities are being masked. Lower utilisation of preventive care (including screening and immunisation) and health promotion services is linked to deprivation at an area level and to poorer socio-economic circumstances at an individual level.
3. Although there is not a great deal of evidence relating to inequities amongst the elderly as most studies control for age, elderly people do appear to experience some inequity in relation to particular types of treatment, such as surgery for CHD and screening.
4. Again, most studies control for sex, so the research evidence on differences in access for males and females is sparse. However, women have fewer

investigations and surgical interventions for CHD, even after controlling for lower levels of “need”.

5. Those living further away from the location of care experience lower utilisation rates even after controlling for other factors, for some services. Evidence is strongest for some types of outpatient care, A&E, renal care and CHD. There is some evidence to suggest that the geographical distribution of GPs is inequitable. Despite the lack of good empirical evidence, it seems likely that geographical inequities exist in long term care, potentially affecting all the client groups for whom long term care is important (ie the elderly, those with learning disabilities, younger people with physical disabilities and those with long term mental illness).

The potential complexity of the model of utilisation discussed in section 2 implies that, even if differences in access to NHS care are inferred from a study, careful analysis may be required before a policy conclusion can be drawn from the apparent inequalities noted above. In this respect, evidence of variations in access to NHS care can only be considered useful for policy purposes if it is presented in conjunction with the likely causes of inequalities. In general, we have found the policy implications of the above inequities to be far from clear cut, and to require further research. However, throughout the report we have attempted to provide some policy guidance by separating causes into supply and demand factors, although these are inter-related in most cases. Broadly speaking, policy makers may have more direct control over supply factors and less over demand factors. Of course this does not hold in every situation: for example, one cause of lower utilisation of preventive care for some groups may be their perception that preventive health care is not worthwhile. The policy implications of this depends on the extent to which this is an informed decision or whether it is caused by biases in the information available to this group. Further complications arise in considering whether demand effects are influenced by variations in the quality of services, either perceived or real.

Thus, in relation to the three objectives of this review set out at the beginning of this section,

- We have indeed found substantial recent evidence of certain inequities in access to health care in England, although some sectors (notably acute inpatient care) have been the subject of considerably more research than others (notably long term care).
- In each sector, we have sought to delineate the factors leading to inequity under two headings: supply factors and demand factors. Broadly speaking, only the better-designed studies have enabled us to make much progress in this respect.
- We have found very little usable evidence evaluating the success or otherwise of policy interventions designed to reduce inequities.

In the course of this review we have identified many gaps in the current state of knowledge about the existence and causes of inequities in access to health care studies. Such gaps are often due to the methodological difficulties associated with research in some sectors and for some client groups. The nature of the methodological problems are discussed in more detail in Section 8, but the broad

recommendations we make in relation to future research into inequities is summarised below.

Research should:

1. Seek to investigate health care sectors where existing evidence is sparse;
2. Ensure that the full range of factors leading to inequities is explored;
3. Where appropriate, seek to focus on the patients involved and the outcomes achieved, rather than individual services;
4. Where appropriate, ensure that people living in institutions are given as much attention as those living in households;
5. Ensure that studies are designed to offer some guidance on the likely causes leading to inequities.
6. Ensure that studies evaluating policy interventions are well designed and adequately funded.

SECTION 2

METHODOLOGICAL ISSUES

INTRODUCTION

Methodological aspects of inequity in health care are the subject of a small but thoughtful literature. The main focus of attention has been horizontal inequity between income groups. The usual approach has been to seek to standardise receipt of health care for population need, and to examine the extent to which different groups vary (see, for example, Wagstaff and Van Doorslaer^{1,2}). When income groups are the focus of attention, this allows one to measure the degree of inequity using concentration curves, as illustrated in Figure 1.

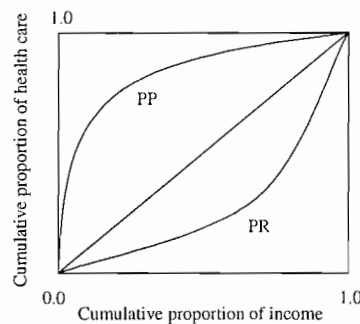


Figure 1: Concentration curve for health care expenditure

The proportion of national health care received (adjusted for needs) is plotted against the cumulative proportion of population ranked by income. An equitable distribution is indicated by the diagonal line. A “pro-rich” distribution would be indicated by the curve PR, while a pro-poor distribution would take the form of PP. The degree of inequity is indicated by the area between the empirical curve and the diagonal line. Of course such methods are only appropriate when the population can be ranked, as by income.

As demonstrated by O’Donnell and Propper,³ a major problem associated with such approaches is the adjustment for need. It is of course possible to use empirical data to adjust for variations in need between income groups, but the utilisation data used may not then be independent of that needs adjustment

Some of the more important methodological literature is listed at the end of this section. Unfortunately, much of it is not directly relevant to our review, as it takes little account of the various supply and demand influences on utilisation. An exception is the theoretical work of Le Grand,^{4,5} which explicitly considers the role of personal preferences in influencing consumption of health care. His ideas influence our model.

The remit of this study is to explore the extent to which particular groups within the population suffer from empirically verified systematic inequity in access to health care. The basis of groupings are:

- by geography (for example, by region; or urban *vis a vis* rural areas);
- by social group (for example social class; occupation; income);
- by ethnic group;
- by sex;
- by age.

It is important to note that we have been asked to examine only systematic inequities of this sort. In addition to any systematic effects, “random” inequity may also arise in the NHS because of factors such as variations in medical practice and historical accident. However, we do not consider inequities arising from such sources unless they systematically affect some population groups more than others.

As Le Grand⁶ notes, equality of *access* to health care is not necessarily the same thing as equality of *treatment*. Equality of access is purely a supply side consideration, in the sense that equal services are made available to patients in equal need. Equality (or inequality) of treatment arises from the interaction between supply and demand, in the sense that it depends on the preferences, perceptions and prejudices of both patient and health care provider. In practice, almost all empirical studies in this area have perforce examined, at least in the first instance, inequalities in treatment, even if the focus of attention is inequality of access.

However, the ultimate policy interest is in equality of access. This section therefore sets out some general principles that may need to be considered when appraising research which investigates inequalities in utilisation within the NHS.

(1) Need

1.1 The fundamental principle of horizontal equity addressed by this review is the extent to which there exists equal access for equal need. This begs the question: what is need? Unfortunately, as numerous authors have noted, the concept of the “need for health care” is far from unambiguous. For example,

- does it relate to an individual’s level of illness or the capacity to benefit from treatment?
- to what extent should non-clinical contributions to need, such as an individual’s social circumstances, be considered?
- how is the relevant concept of health status to be measured? In particular, many studies rely on self-reported illness, and the predisposition to report illness may vary systematically between groups;
- at what stage should need be measured? For example, two identical individuals may present to the NHS with differences in immediate clinical need because previous NHS care, or health promotion, has been less effective for one individual than the other.

1.2 Discussion of need raises a whole host of issues relating to individual choice and inherent healthiness, as discussed by Le Grand.⁶ Detailed discussion of such issues is beyond the remit of this study. We shall nevertheless find it necessary to consider the relevant notion of need at various stages in this review when appraising evidence of variations in utilisation of NHS resources.

1.3 In practice, we have found that most empirical studies of inequality have paid only scant attention to the concept of need. They usually make one of the following assumptions:

- Levels of need are the same in each group being studied, meaning that no explicit consideration of need is necessary.
- Levels of need are assessed on the basis of a crude measure, such as self-reported morbidity, thereby assuming that there are no systematic variations between groups in the way that the associated question is interpreted or answered.
- Levels of need are assessed on the basis of a bio-medical measure of health status, therefore assuming that there is no systematic variation in the way that such measurements are taken, and that unmeasured factors (such as social circumstances) are not relevant to need.
- Levels of need are indicated by the characteristics of the area in which individuals live, rather than their own circumstances. This approach leads to potential problems of interpretation, as an effect observed at the area level may not obtain at the individual level (and *vice versa*).
- Levels of need are indicated by the results of some other study, leading to the potential for circularity in argument if that study itself is based on some measure of utilisation.

Clearly each of these alternatives is in some senses deficient, and gives rise to the potential for misinterpretation of results.

(2) Utilisation

2.1 Notwithstanding the complications set out above, let us now assume that we have adjusted for variations in need. This allows us to envisage a "representative individual" from each of the population groups of interest *exhibiting some given level of clinical (and possibly social) need*. We must assume that in most cases measuring *access* for a given level of need is not feasible, and that we must focus on NHS *utilisation*. The next question to be addressed by inequality research is therefore: to what extent does the probability that the individual receive NHS care for the condition vary between groups?

2.2 The first point to note is that the measure of utilisation used may often be problematic. For example, numbers of contacts with a general practitioner may be used as a measure of utilisation in primary care. Yet contact rates may not be a good measure of either the quality or quantity of health care received. Indeed in some circumstances a contact may simply reflect an administrative requirement, such as the need to obtain a sick note. Similarly, measures of hospital utilisation such as finished consultant episodes or bed days give rise to problems of

interpretation. Many empirical studies focus on utilisation of a single procedure. Yet there may be equally effective alternative NHS therapies which are not considered. In these circumstances under-utilisation may simply indicate use of such alternative therapies.

2.3 Unmeasured aspects of utilisation can be thought of as representing the quality of care received. Such quality may manifest itself in innumerable ways, such as the number and length of consultations, various aspects of waiting time, the clinical quality of health care, the nature of any follow-up treatment, and the outcome achieved. Clearly there is enormous potential for such quality issues, which are not captured in the utilisation measure, to vary systematically between population groups.

2.4 In the remainder of this section we nevertheless assume that a satisfactory measure of utilisation can be found. As noted above, the decision as to whether an individual receives health care arises from the interaction of supply of and demand for that care. On the supply side, medical judgement will determine whether the individual is offered *access* to NHS care. However, as noted above, such access cannot usually be observed directly. Rather, it is utilisation that is observed. We shall assume that the decision as to whether to accept the offer of treatment, leading to observed utilisation, rests with the individual, often, of course, under the guidance of medical and other health care professionals.

2.5 This model of utilisation raises an important characteristic of health care which is not handled well by conventional economic analysis – the reliance of patients on medical advice, leading to an interaction between supply and demand. In principle, it might be convenient to think of the specialist or general practitioner as a disinterested agent acting and advising in the best interests of the patient. In practice, clinicians are also likely to be aware of supply side considerations, most notably the pressure on their own budgets. For example, amongst hospital physicians, there may be an incentive to offer advice which leads to over-supply of treatment (if the marginal revenues from a patient exceed the expected marginal costs) or under-supply (if marginal costs exceed marginal benefits). Similarly, many NHS surgeons also offer private health care, a situation which offers the potential for biased advice to the patient.

2.6 Variations in access offered by the supply side might arise for the following reasons:

- certain NHS services may not be available to some population groups;
- the NHS may impose costs (financial or otherwise) for the use of certain services by some population groups;
- clinicians and other NHS workers may have different propensities to offer treatment to patients with identical needs from different population groups;
- the NHS may fail to ensure that the availability of certain services is known with equal clarity by all population groups (for example, those to whom English is not the first language);

- the quality of certain services offered to identical patients may vary between population groups (as expressed, for example, in numbers of contacts or waiting times).

Clearly such supply side variations might arise for a number of reasons, such as difficulties in communicating with some groups of patients, differences in financial pressures faced by clinicians, and a conscious desire to target particular groups of patients.

2.7 On the demand side, it is perhaps simplest to model the treatment decision as the usual economic choice: namely, do the benefits of treatment (as perceived by the patient) exceed the perceived costs? Under this model, variations in utilisation might arise for the following reasons:

- individuals may make different assessments of the benefits of medical treatment, perhaps arising from different social circumstances or different attitudes towards the risks of treatment;
- individuals may have different perceptions regarding the availability and efficacy of NHS facilities;
- general practitioners or other "gatekeepers" to NHS services may offer different advice to different population groups;
- different population groups may interpret medical advice in different ways;
- individuals may face different implicit or explicit prices for using NHS care, such as travel costs, the costs of taking time off work, or direct user charges;
- individuals may have different abilities or propensities to seek alternative sources of care, such as private health care, alternative medicine or other welfare services.

2.8 Some of the demand side considerations can be expressed in a very simplified model of NHS utilisation, developed from the models of Goddard *et al*⁷ and Martin and Smith.⁸ Suppose that individual i has been offered NHS care, and assesses that immediate treatment would yield a value V_i , expressed perhaps in quality adjusted life years. The "price", both implicit and explicit, of NHS treatment can be denoted C_i (for some services this may effectively be zero). The price of equivalent private or other non-NHS health care is P_i . For simplicity, we assume that the clinical benefits of non-NHS care are the same as those arising from NHS care. Assuming that $P_i > C_i$, there must be some respect in which the perceived quality of NHS care is inferior to that of private care if an individual is to consider seeking private care. Let us assume that the qualitative difference is embodied in NHS waiting time, so that NHS treatment can only be offered with a delay t (waiting time). This means that the benefit of NHS treatment to the patient is reduced, as the wait imposes costs on the individual in terms perhaps of lost earnings or further pain. We shall assume that for individual i the benefits of NHS treatment reduce as t increases in line with a negative exponential function $\exp(-g_i t)$, so that the effective quality-adjusted benefit of NHS treatment is $V_i \exp(-g_i t)$, where g_i is a personal preference parameter.

2.9 Under these assumptions, individual i has three possible courses of action: to accept the NHS care (under which treatment may be delayed); to seek non-NHS

health care as an alternative (under which treatment is immediate); or to forego any health care. The following preferences will determine the health care decision made by individual i :

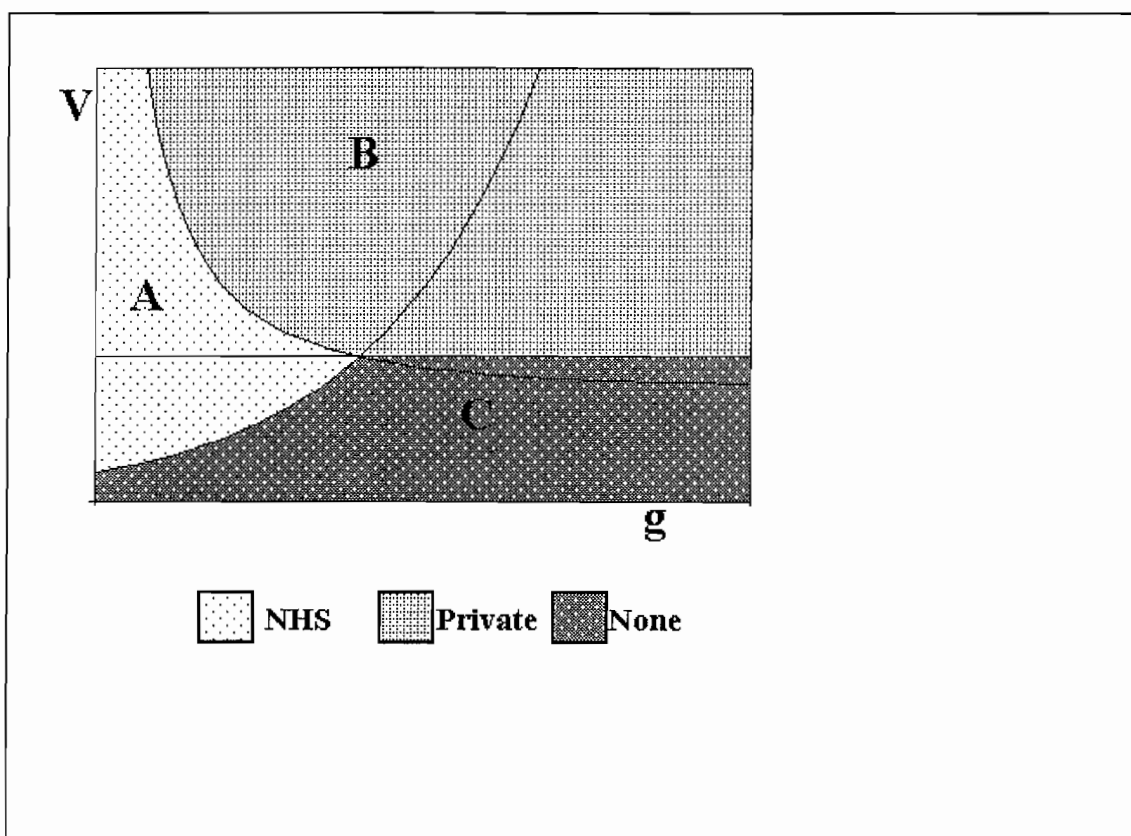
NHS treatment will be preferred to no health care if $V_i \exp(-g_i t) - C_i > 0$.

NHS treatment will be preferred to private health care if $V_i \exp(-g_i t) - C_i > V_i - P_i$.

Private health care will be preferred to no health care if $V_i - P_i > 0$.

These preferences can be represented diagrammatically, as shown in Figure 2, which describes the decision made by individual i as individual valuation of benefits (V) and time preference (g) vary and all other parameters remain constant. In region A, NHS care will be sought, while in region B non-NHS care is preferred and in region C no health care is sought.

Figure 2: Regions of demand for NHS, private and no treatment



2.10 This model brings to light importance of a variety of factors in determining whether a representative individual with a given clinical need will be observed to receive NHS care. The probability of receiving NHS care depends on five factors, as follows:

Benefit of treatment V_i . Clearly different individuals with the same level of clinical need may nevertheless perceive that they would receive very different benefits from

treatment, depending for example on their social and economic circumstances. This parameter is likely to be heavily influenced by the advice of doctors and other health care workers. It can also be thought of as encompassing the individual's degree of risk aversion, so that one reason for variations in V may be variations in attitudes towards the risks of treatment.

Price to the individual of NHS treatment C_i . Factors such as travel costs, loss of earnings, and a wide range of other less tangible costs of seeking NHS care may vary between individuals. Most importantly, the same nominal price may have very different implications for a rich as opposed to a poor individual.

Quality preference parameter g_i . Different individuals may exhibit different attitudes towards a delay in treatment, or other aspects of the quality of care, leading to different propensities to seek alternatives to NHS care.

Relative quality of NHS treatment t . In this model the quality of NHS treatment is represented by waiting time t , which can of course vary between providers and between population groups. Clearly this is only representative of the many other aspects of perceived quality which could be modelled similarly.

Price to the individual of non-NHS health care P_i . Availability and costs of private and other substitute modes of care vary, and may depend on the individual's income, health care insurance arrangements, cultural background and local welfare services. In particular, the *relative* cost of private health care is usually greater for the poor than for the rich. Similarly, if alternative welfare services, such as community care, are potential substitutes for NHS care, the availability and effective prices of such care may vary substantially between individuals.

2.11 The importance of these considerations varies from service to service. For example, in the acute elective sector, valuation and costs of NHS care are likely to be relatively well known, and the important determinants of seeking NHS care will be attitudes towards waiting time and ability to pay for private health care. In the long term care sector, however, quality of care may be perceived to be a much more complex issue, and there may exist a larger range of alternative modes of care (see Section 7).

2.12 Indeed we would not suggest that this rudimentary analysis is necessarily realistic for all aspects of NHS care. It is merely intended to draw out some of the many potential influences on utilisation on the demand side. Furthermore, the model glosses over a further possible cause of variations in the demand side of NHS utilisation that may be of crucial importance in many contexts: variations in the information available to individuals. This source of variation can be thought of as being due to a degree of uncertainty in estimating the correct values of the components of the model we have presented. That is, individual decisions may vary because of imperfections in available information or in the ability to process such information, either on the part of patients or the professionals advising them. Furthermore, the dual role of clinicians may lead to the potential for biases in the advice proffered.

(3) Interpretation of study results

3.1 The above discussion suggests that variations in utilisation between population groups identified by research may arise because of variations in a wide range of factors on both the demand and supply side. The perspective of this study is inequity in access, and this suggests the need for an element of judgement as to what constitute (from an equity perspective) “relevant” and “irrelevant” sources of variation in utilisation. Thus it might be felt that what matters from our perspective is that individuals with identical need should be offered NHS care with the same level of quality t and at the same implicit price C . Variations in utilisation arising from sources other than these might be considered largely irrelevant. On the other hand, variations may arise because of differences in *perceptions* about (say) the benefits of treatment V . Such variations would appear to be relevant to the study if they relate (say) to differences in clinical advice, but might be irrelevant if they are largely due (say) to differences in patients’ attitudes towards risk.

3.2 It is also important to note that variations in access may indicate inappropriately high levels of utilisation amongst some groups, rather than low utilisation amongst others. For example, invasive surgery may be offered more frequently to certain population groups as an alternative to apparently more effective palliative care. And in other contexts, certain population groups may persuade the NHS to offer treatment that would not generally be considered efficient use of NHS resources. More generally, studies focusing on NHS services (rather than client groups) may not capture the possibility that patients in low utilisation groups may be receiving treatment from other NHS services, without detriment to health outcome. This problem is particularly important in the long term care sector, and is discussed in more detail in section 7.

3.3 Finally, a routine note of caution must be entered about the distinction between association and causality. This is a particularly important problem in studies of equity, which are seeking to identify whether particular social groups receive systematically different levels of care to other groups. In practice, the usual focus of research attention is a group suffering from some perceived disadvantage. Yet disadvantaged individuals often suffer from “multiple disadvantage”. For example, many inner cities contain areas with disproportionately high numbers of overlapping households which are not only ethnic minority households but also have low income, low car ownership and poor housing. Such areas may exhibit severe inequities in certain aspects of access to health care. However, it is often difficult for researchers to isolate which particular dimension (or combination of dimensions) of disadvantage have led to the inequity. This limitation often makes it difficult to infer appropriate policy responses.

3.4 The potential complexity of the model of utilisation discussed in this section therefore means that, even if differences in needs-adjusted access to NHS care are inferred from a study, careful analysis may be required before a policy conclusion can be drawn. In this respect, *prima facie* evidence of variations in access to NHS care can only be considered useful for policy purposes if it is presented in conjunction with the likely causes of inequalities.

SECTION 3

GP CONSULTATIONS

SUMMARY OF MAIN ISSUES

* Not all studies attempt to adjust for need; of those that do some use area level measures (limiting long standing illness in enumeration districts) which are less satisfactory than those at the individual level (self reported chronic and/or acute sickness; those who are permanently sick).

* Some ethnic groups have low rates of consultation relative to need (Chinese, young Pakistani females, Africans) and there is insufficient research to conclude why this might be, although factors such as poor communication, health beliefs and lack of availability of female doctors from ethnic groups have been suggested. Other ethnic groups have consultation rates similar to, or higher than, those of the white population. Although higher rates may be indicative of poor quality care (if people are required to make repeat visits in order to get their problem resolved), there is no direct evidence of this.

* Higher rates of consultation are associated with greater deprivation and with lower socio-economic group (eg loss of employment, unemployment, lack of access to car, non-owner occupier status, manual social class), even after adjusting for "need". The exception is consultation for reasons classified as "preventive" as people in manual social classes are around 10% less likely than those in non-manual groups to consult for this reason.

* Broad brush studies which have linked income and socio-economic group to health care expenditure and GP utilisation have shown a slightly pro-poor distribution. However there is some evidence to suggest that levels of morbidity within each "need" group are affected systematically by socio-economic status, which in turn suggests that these findings may mask some inequities.

* There is some evidence to suggest that particular age/sex groups living further away from the GP surgery and some groups living in rural areas are less likely to consult than their counterparts living closer and in urban areas. However, this effect appears to be greatest for disorders classified as trivial or intermediate rather than for serious disorders. Most research on the geographical distribution of GPs suffers from inadequacy of data so it is difficult to draw firm conclusions, but overall they appear to suggest that there is substantial variation in supply across the country when "need" is measured at an area level.

* Men have lower consultation rates than women although the differences are smallest for disorders classified as serious. Rates for women are particularly high for minor psychiatric disorders and can be explained partially by differences in health beliefs and help seeking behaviour. There does not appear to be any evidence to suggest that men find it more difficult than women to access their GP.

SECTION 3

GP CONSULTATIONS

INTRODUCTION

The majority of research on access to primary care services has focused on GP visits and referrals by GPs to secondary care. The former is important as the GP is the first point of contact with the health care system for most people; the latter is important as inequities in access to secondary care services may originate in, and therefore need to be tackled in, the primary care sector. Evidence relating to referrals by GPs is considered in section 4 on acute care.

Much of the research on this issue has utilised large data sets such as the General Household Survey (GHS) and the series of surveys on Morbidity Statistics from General Practice (MSGP), whilst local surveys and individual practice data have also been used to examine variations in consultation rates. The analyses of variations in consultations are subject to the usual pitfalls outlined in section 2. In addition, there are some problems of interpretation related specifically to GP consultations as some visits may be for reasons other than “sickness”, for example, obtaining a sick note or attending for reasons associated with pregnancy and antenatal care.

Most studies use models which adjust for age and sex or examine consultations within different age/sex groups. As the GHS contains data on self reported morbidity, some studies use this to differentiate between the sick and not sick in order to adjust for variations in “need”; similarly, the MSGP has information on “permanent sickness” as part of the employment status question and this has sometimes been used in an attempt to adjust for need.¹ The multivariate analysis undertaken by McCormick et al on the MSGP4 data² included estimates of limiting long standing illness for the enumeration district where the patient lived (but not individual level data) as a “needs” indicator. The results from numerous studies suggest the broad conclusions and possible explanations listed below.

(1) Ethnicity

Evidence:

1.1 Studies which have described utilisation patterns without adjustment for need have generally reported significantly higher probability of consulting a GP (when compared with equivalent age/sex white groups) for most ethnic groups. For instance, probabilities of consulting are significantly higher for men (38%), women (26%) and the elderly (53%) born in the New Commonwealth or Pakistan³ and for men aged 16-64 from Pakistan (almost three times as likely), West Indies (65%) and India (53%) and for Pakistani women (85%).⁴ Similarly, Asians and Afro-Caribbeans have been found to have more frequent visits to GPs than their white counterparts in the West Midlands.⁵ Indians, Pakistanis and Bangladeshis are reported to have a higher mean number of consultations than the UK average (5, 7.7 and 7.9 respectively, compared to UK average of 4.9), with differences especially marked amongst the elderly. Afro- Caribbeans had similar rates overall to the UK average.⁶

1.2 Analysis of the MSGP3 showed that for all diseases and severities, males from the Indian sub-continent (India, Pakistan, Bangladesh and Sri Lanka) were significantly more likely (13%) to consult than similar UK groups; females from the Indian sub-continent and from the Caribbean were also more likely to consult (54% and 42%) for conditions classified as serious. The data allow for disaggregation by disease and disorder, illustrating that Caribbean males and people from the Irish Republic consult more for mental disorders, whilst females from the Indian sub-Continent consult less. Other variations in rates for specific disorders broadly match the greater prevalence of certain disorders amongst some ethnic groups (eg diabetes in Asians).⁷

1.3 Studies which attempt to control for need in some way have found less marked evidence of inequity in GP consultations. However, raised rates of use have been reported amongst Asians generally (51%) (compared with all other ethnic groups);⁸ Asian females and Asian boys;¹ those from the Indian sub-continent;² Indian, Caribbean and Pakistani patients aged 45+ and Caribbean females.^{9, 10} A recent national survey¹¹ found that compared with the white population, greater proportions of people of Caribbean, Indian/African Asian and Pakistani/Bangladeshi origin reported consulting their GP in the previous month. However, this study did not present tests of statistical significance, nor present results by age/sex groups. Some contradictory findings have emerged as young Pakistani females are found to have low levels of use (30% lower) in some studies⁹, as are older females from the Indian sub-continent (50% less likely to consult).² Differentiating between the probability of consulting at all and the frequency of visits, it has been reported that although the consulting rates for Asians are similar to other groups, those who do consult, do so more frequently.¹² The findings in relation to consultations for specific diseases support generally the findings from the uncontrolled studies mentioned above ie people from ethnic groups consult more in those categories of disease for which they experience higher morbidity and mortality.

1.4 In addition to the finding for low use amongst young Pakistani females, significantly lower use has also been reported for Chinese^a people (between 20-70% lower),^{1,2,9, 11} Africans (30% lower)⁹ and the Irish and West Indians.¹²

Despite the importance of socio-demographic variables in explaining health care utilisation, most of the studies mentioned above do not control for this. It is possible that the ethnicity variables are therefore capturing the effects of socio-demographic differences. Most weight should be given to studies which take this into account, as well as attempting to control for need. This implies that the most useful findings concern higher rates amongst Caribbeans and Asians, especially those in particular age/sex groups,^{1,8,9} and lower rates in young Pakistani females, Chinese and Africans.^{1,9}

^a The category used by Carr-Hill et al and McCormick et al is "other" which consists of Chinese, Sri Lankan and other ethnic groups. Carr-Hill notes that the group is "mostly" Chinese.

Explanations:

Supply Factors

1.5 A high proportion of people from most ethnic groups appear to be registered with a GP. Most surveys report registration rates of 99-100%,^{6, 8} with the incidence of non-registration slightly raised for Afro-Caribbean men (4%).⁶ However, if people from minority ethnic groups tend to live in deprived areas which may have lower availability of GPs per capita (adjusted for need), then accessibility may be an issue for some (see geography section below). Previous surveys have shown that patients from ethnic minority groups are significantly more likely than white people to attend open GP surgeries than those offering appointments¹³ and may wait longer at the surgery to see their GP.^{6, 14} The Health and Lifestyles survey supports these findings: just under two thirds of Afro-Caribbeans and a half of Asians make GP appointments, compared with almost 80% of the UK population generally; and the average time spent waiting in the surgery is 18 minutes for the UK population, but 27 minutes for Afro-Caribbeans, 30 minutes for Indians, 33 minutes for Pakistanis and 50 minutes for Bangladeshis.⁶ Unsurprisingly, a higher proportion of the latter groups feel that the wait is too long (although some of this difference is of course due to their attendance at open surgeries). Some of these factors may explain the reduced rates of consultation seen amongst some groups, although of course in some groups, higher rates are seen despite these potential supply problems.

1.6 Much research in this area has focused on the issue of communication between GPs and people from ethnic minorities. Poor communication could account for both a higher or lower level of consultations, depending upon whether the experience discourages the patient from attending in future or whether they are required to make repeat visits in order to resolve the issue in a satisfactory manner. This could be due either to language problems or to differences in culture and in the definition and meaning of illness.

1.7 It has been noted that some ethnic groups (Pakistani and Indian) are more likely to receive a prescription at a consultation compared to white and West Indian groups.¹⁵ Whilst it is difficult to place too much weight on this finding (which was not supported by work on a smaller scale by Gillam et al¹²) as it did not control for social class, it is possible to interpret this in a number of ways. If a prescription indicates that the person is sicker, this may imply higher levels of "need" in the groups who seem to be consulting more frequently. However, it might be seen as an indicator of poor care if it is given as an alternative to a longer or more detailed consultation.

1.8 Most research which looks at differences in GP behaviour according to ethnic group focuses on referral patterns to outpatient or inpatient care in the secondary sector and this is considered in section 4 on acute care. However, it has been suggested that some groups are less likely to receive a follow-up appointment at the GP⁷ and that GPs are less likely to refer people from ethnic groups to other members of the primary care team.¹⁴ This is reflected in the relatively low numbers of people from ethnic groups compared with the UK average, who saw the practice nurse at their last surgery visit.⁶ It is difficult to tell whether this is because GPs do not encourage this or because the patients prefer to see the GP.

Demand factors

1.9 It appears that a high proportion of people from many ethnic groups are registered with a GP from the same group (eg Asians), although this is less common amongst others (such as the Chinese).⁶ This must minimise the extent to which language difficulties arise and may also explain the high dependence on the GP rather than on other practice staff who are less likely to speak the same language as the patient. This is reflected in the degree to which people reported that it was easy/fairly easy to understand their GP - 98% and 97% of Indians and Pakistanis responded positively, dropping to 92% for Bangladeshis who also report the highest rate of use of formal and informal interpreters. However, a comparison of Chinese and white people in Hull found that almost three quarters of the Chinese reported difficulty in communicating with their GP and 57% required an interpreter when seeing the GP.¹⁶

1.10 The observation that people from ethnic groups are more likely to attend the GP for vague or "trivial" complaints or ill defined conditions and symptoms have led to much discussion about the "somatisation" of complaints (where personal and social problems are expressed through the presentation of physical symptoms). However, MSGP4 suggests that raised rates amongst most males and some females from the Indian sub-Continent appear for categories of conditions classed as "serious" illness. Other studies have found white people to have the same tendency to report "vague or poorly described" symptoms as those from ethnic groups.⁵ Similarly, the results from one multivariate analysis⁹ suggested a particularly strong interaction between sickness and utilisation amongst Indians and Pakistanis plus much less ethnic variation amongst those classified as "sick" as opposed to "not sick". These findings suggest these groups may receive equal care only when they are in circumstances of relatively greater need.

1.11 Different ethnic groups may hold different views and beliefs about the benefits of treatment and the ability of the GP to help. It has been suggested that the Chinese belief in health as a property of human beings requiring continuous individual action, makes them less likely to view illness as episodes requiring clinical interventions.⁹ A preference for female doctors may explain the relatively low rates of consultation reported in some studies for young female Asians. The HEA collected information on numbers currently seeing male GPs who would prefer to see a female GP and whilst the figures for females aged 16-29 was 12% for UK wide population, the corresponding figures for Indian, Pakistani and Bangladeshi women were 25%, 33% and 34% respectively.⁶

1.12 It is difficult to assess the extent to which variations may reflect the use of alternative sources of care and whether these are classified as "appropriate" or "inappropriate" substitutes. The use of alternative traditional healers does not seem to be widespread amongst ethnic populations^{5, 6, 17} and even where some groups have claimed they would use alternative healers, there may not actually be any available to them in their area. Evidence on the use of private sector care by ethnic groups (independent of social class) is scarce, but there is probably less scope for substitution for GP services than for in-patient care. However, a small (n=29) in-depth study amongst black females in East London suggested that due to a tradition

of private GPs in the Caribbean, those women who were raised there tended to view the private sector favourably and almost half had consulted a GP privately by paying directly.¹⁸ One study reported that Asians were as likely as whites to go to private doctors.⁵

1.13 Variation in the frequency of night visits or domiciliary visits by GPs may help to explain variations in consultation rates at the surgery if some groups are using the former as substitute for the latter. This may be because they are more pre-disposed than others to request such visits and/or because GPs are more likely to comply for some groups than others (the latter would be a supply side factor but it is only possible to disentangle these if visits requested but refused are studied). Lower home visiting rates have been found for Irish and West Indian groups⁷ and one study reported that Asians had a relatively high probability of home visits but felt this may reflect "need" due to the high numbers of children in Asian homes.⁵ The study of Chinese people in Hull suggested that when compared with the white group, a higher proportion of the Chinese would call an ambulance or go directly to hospital, rather than call the GP to their home if they were in urgent need of care.¹⁶

(2) Socio- Economic Factors

Evidence:

2.1 Consultations are significantly higher for those without access to a car. This appears to apply for children where the head of household has no access and for men and women without access;³ also for people from geographical areas with high percentages of households without cars.¹ Access to more than one car reduces the probability of consultations.⁸

2.2 Consultations are significantly higher amongst those living in council housing or non-owner occupied housing. Higher consultations are reported for council tenants (11-53% more likely to consult depending on age and sex)³ and council tenants are more likely to consult than those in other tenure categories, especially for serious disorders (4-16%).^{2,7} The exception is for rates for preventive care where they are lower than those of owner occupiers.² Higher rates are reported amongst non owner occupiers¹ and those living in rented accommodation (14%).⁸ Although some of these rates are unadjusted for need, those which use morbidity data to control for need also support these findings.

2.3 Unemployment is associated with higher rates of consultation in studies which have made some adjustment for need.^{1,2} Unemployed men aged 16-44 have double the consultation rates of employed men for mental disorders.² Those who had lost employment during the year are reported to be amongst the most frequent consulters.¹

2.4 Variations in family type have been found to be associated with variations in consultation rates. In general, results from studies suggest that children living with single mothers are more likely to consult, but Carr-Hill et al¹ reported that this was apparent only for girls and then in the opposite direction. Generally, studies report higher rates for married or cohabiting women apart from in older age groups.²

2.5 Research relating socio-economic group and/or income to utilisation of GP services has been contradictory and difficult to interpret. It has been widely reported that consultation rates are higher amongst people from lower socio-economic groups as defined by occupation.^{2, 3, 7, 19} In contrast, an often quoted study which combined data on GP, outpatient and inpatient care concluded that the lower social groups receive far less (up to 40%) NHS care than the top groups.²⁰

2.6 However, the picture is less straightforward once more detailed adjustments have been made for "need". Later studies which control for differences in self reported morbidity suggest that the class bias (in total NHS care) disappeared except in the "not sick" category²¹ as did the income bias for GP utilisation.²² It should be noted that the debate about these findings still continues and cannot be dealt with further here.^{23,24} Multivariate analysis of MSGP4 found that adjusting for confounding variables reduced the social class gradient that appears when adjustment is made only for age, although it does still exist (eg men aged 16-64 in social class IV and V are 40% more likely to consult for any reason than men in I and II when adjustment is made for age alone; this falls to 10% when all other adjustments are made; figures for consultations for serious illness in this group are 50% and 20% respectively). Overall, almost all age/sex groups in the manual social classes had a 10% increased risk of consultation, except for consultations for preventive care where they were 10% less likely than the non-manual groups to consult.²

2.7 Other work has generally supported these results, but has indicated specific cases where a bias seems to exist, ie lower income women appear to be less likely than their higher income counterparts to consult a GP.²⁵ Amongst women under 41 years old, those in lower SEGs and those in receipt of supplementary benefit are more likely to consult; whilst for elderly men, low income has been reported to have a negative effect and those in SEG III manual consulted less than those in IV and V.²⁶

Explanations:

Supply factors

2.8 The evidence presented later in the section on geographical inequity suggests that the distribution of GPs may be unequal, with more deprived areas having fewer GPs. To the extent that people from lower social classes live in deprived areas, they may find GP practices less accessible. However, although this may account for the relatively low rates of attendance for preventive care, it would not explain higher overall rates amongst lower social classes.

2.9 If people from lower social classes find the consultations with GPs less satisfactory in terms of the way in which the GP deals with their problem, this might necessitate repeat visits which may account for higher rates of consultation. Several studies summarised recently²⁷ suggest that people from the middle classes spend more time with their GP, ask more questions and get more information from them, when compared with those from lower social classes. However, others have noted that despite these sorts of differences in process, the outcome of consultations may

be the same for both groups in terms of the proportions who received explanations from the GP and the proportions who misunderstood or rejected the advice.²⁸

Demand factors

2.10 It has been suggested that some of the apparent pro-poor distribution may be explained if the level of morbidity within each “need” group is systematically affected by socio-economic status.²² If the poorer individuals within the “sick” group used in the analysis are in fact *more* sick than the richer ones, then this will mask inequities as it will give an artificially good measure of need for these groups. Data from the Health and Lifestyle survey illustrates that this is indeed the case.²² The fact that poorer people may be sicker at each level of measured “need” may thus explain why higher rates of consultation are seen amongst the lower social classes. It is difficult to know whether this implies that higher needs are met adequately by higher utilisation, or whether a shortfall between need and care exists.

2.11 Many studies have looked at financial and non-financial barriers to access, although if poorer groups have higher rates of consultation, such barriers do not seem to operate for GP services. People from relatively deprived areas have reported no greater problems than the affluent in attending the surgery,²⁹ although it has been suggested that women from lower social groups often have to make elaborate practical arrangements with friends and family to enable them to access GP services and that this dependence on “borrowed time” may discourage the use of GP services in some circumstances.³⁰

3. Geography

Evidence:

3.1 Much of the evidence relating to the impact of distance from general practice surgeries on consultation rates comes from older studies, but they suggest the existence of a negative relationship (“distance decay”) (summarised in Carr-Hill³¹ and Gravelle³²). Analysis of the 3rd MSGP suggested that patients who live in rural areas are generally around 10% less likely to consult than their urban counterparts⁷ and this is strongest for intermediate or trivial disorders but not for disorders classified as serious. Lower rates in rural areas appear for most disease categories except neoplasms and accidents, injury, poisoning and violence. A review of the older evidence³³ suggested that only one study controlled for “need” (measured by long standing illness), thus not too much weight should be placed on these results.

3.2. Multivariate analysis of the most recent MSGP (with control for “need” at area level) also found a deterrent effect for distance, apart from amongst men over 65 but again this was less marked for more serious illnesses. Men aged 16-44 from a rural area were less likely to consult than those in an urban area, as were men and women aged 45-64 for serious conditions.² Another analysis of MSGP4 has reported that for females under 15 and males over 64, those living closer to a practice consulted significantly more than those living further away; additionally, males under 15 and females aged 15-64 who lived in urban areas consulted more than those in rural areas but within the urban areas, those living nearer again

consulted more.¹ The main effect was between those living less than 2km and more than 2km from the practice.³¹ Metropolitan dwellers have also been found to have higher rates of use (12%).⁸

3.3 The geographical distribution of GP practices has been examined by a number of authors attempting to match availability with some indicator of need and most have concluded that inequities exist.^{8, 34, 35, 36} Unfortunately, due to lack of individual level data, all the studies rely on the use of data at area level. Those which look at regional level data are limited in their usefulness, as they assume equal access within each region. Recent work which constructed access variables from spatial models indicated that area level measures of inequality identify less than 2% of total inequality, thus emphasising the importance of considering access at the individual level (although the data is not currently available to do so).³² Aside from variations in the quantity of GPs available, some studies have indicated the poor quality of general practice services in deprived areas.³⁷

Explanations:

Supply factors

3.4 Evidence for the unequal distribution of GPs suggests that the existence of deprivation payments and the processes used by the Medical Practices Committee are insufficient to offset this effect. Allocation of resources by formula to take into account geographical variation in need may address this problem if it is used in the future.

Demand factors

3.5 Higher consulting rates amongst those who live closer to GP surgeries may be a result of choice if more frequent consulters decide to locate themselves in close proximity to care.³³ However, if this reflects higher morbidity it should be controlled for in those studies which attempt to adjust for need. If, however, it reflects just a preference for location, perhaps in anticipation of needing care in the future, this would not be explained by higher levels of current need.

3.6 Those living further from surgeries are likely to face higher financial and non-financial costs of consulting. They will have further to travel which may be costly in financial terms and may also require more time. Those living in rural areas may face additional barriers if lack of public transport and slower roads increase time costs further. Rurality did not appear to have an independent effect once distance had been taken into account in a recent study³¹ and this was explained by the higher proportion of households with access to a car in the most rural areas.

4. Age & Sex

Evidence:

4.1 Numerous studies have confirmed that consultation rates vary systematically with age. Rates follow a U shape pattern with age and because this is usually taken

to be a “legitimate” reason for variations in use, almost all studies standardise for age. It is not therefore possible to assess from these studies whether there is inequity of access by age to GP services.

4.2 In general, women consult more than men and the difference is most marked amongst those aged 16-44, where rates are around 50% higher amongst females.^{2, 8} The difference is greatest for genitourinary disease, mental disorders, diseases of the blood and blood forming organs, and symptoms, signs and ill-defined conditions; and smallest for diseases and conditions classed as serious.² Other studies have supported these findings in relation to higher rates of consultations for minor psychiatric problems amongst women relative to men (summarised in Corney³⁸). However, as women appear to display more psychiatric symptoms than men in community surveys, this may be due to higher levels of “need”.³⁹ Again, as the focus of many studies is the impact of other variables on utilisation, many control for sex and do not therefore attempt to measure or explain the differences.

4.3 In a study based on a sample of patients in South London, the mean annual number of consultations was significantly higher for women than men (3.8 versus 2); women had twice as many consultations as men for acute conditions; and were three times as likely to consult for more than one condition.³⁹ Correlations between measures of “need” (specific questionnaires were used) and utilisation rates were significant for men but not for women.

Explanations:

Supply Factors

4.4 The elderly may find it more difficult to access the surgery than younger people, but the number of home visits from GPs rises with age suggesting at least some use is made of substitute care.²

Demand Factors

4.5 Women may visit their GP for reasons associated with pregnancy and antenatal care, much of which will not be associated with “being sick”. This is mentioned in most studies as a potential explanatory factor, but higher rates have been reported for women even after excluding sex specific consultations.³⁹

4.6 There is a large body of literature which explores differences in the health beliefs and health seeking behaviour of men and women. In relation to GP consultations, it has been suggested that rates amongst men are strongly correlated with physical need whereas in women, psychological predisposition or attitude (related to willingness to seek help and reassurance, especially for psychiatric help) is a strong correlate.³⁹ The presence of psycho-social problems or distress can predict consultation amongst women but not amongst men, and this has been explained in terms of the relative ease with which women will divulge feelings and personal information.³⁸

4.7 It has also been suggested that women may find it easier than men to visit a GP if they are ill as their time may be more flexible, but again the evidence for this is limited.³⁸

SECTION 4

ACUTE SERVICES

SUMMARY OF MAIN ISSUES

* A lot of research on this topic uses area level data. Attempts to explain differences between groups in hospital admissions and rates of referral for specific conditions do not always take into account severity of illness. Detailed research has been undertaken for a few conditions, particularly for investigations and surgery for coronary heart disease (CHD). The sort of explanations advanced for treatment differences in heart disease may be applicable to variations in other treatments also.

* Aggregate rates of inpatient attendance appear to be similar for minority ethnic groups and white people, with the exception of slightly lower rates amongst young Indians, female Indians and Chinese people. Outpatient attendance appears to be lower in most ethnic minority groups (particularly the Chinese) at younger age groups, but similar or higher than white people in older age groups. There is some evidence to suggest that Asians are less likely than Europeans to be referred for tests following a heart attack and may wait longer to receive an appointment once referred. Areas with a high proportion of Asian residents receive less surgery for CHD after adjusting for need. Research tends to suggest that this is related more to doctor behaviour than to patient characteristics.

* Aggregate rates of outpatient attendance amongst the disadvantaged groups are either higher than or similar to, those amongst the more well-off even after adjustment for need. The same is true for aggregate measures of inpatient care. Whilst this suggests that need is being met, the possibility that the health status of the poor is worse than that of the rich even within the self-reported "need" groups should be borne in mind. Studies of specific services give a different picture. For CHD, the weight of the evidence suggests that admissions, rates of investigation and revascularisation do not match "need" amongst the most disadvantaged groups. This does not seem to be related to differences between groups in risk factors and explanations involve both patient and doctor behaviour. No clear evidence on aggregate referral rates emerges, but for CHD there is evidence to suggest fewer referrals are made for those in lower social classes.

* Distance has a negative effect on attendance for outpatient care only for particular types of treatment (which patients may view as less important) and is likely to be linked to access to transport. The picture is mixed for inpatient care and although some studies suggest that utilisation of specialist services is not affected by proximity, the results of research on CHD treatments and renal care suggest that accessibility is an important factor (although one well designed study failed to find this link). However, the reason for this is unlikely to be related simply to unwillingness of patients to travel. The processes may be more complex and related to the contracting process and differences in the attitudes of doctors at different levels of the system.

* There is some evidence to suggest that for CHD, women and older people may experience both lower referrals and surgical treatment rates than men and

younger groups after need has been taken into account. Explanations focus mainly on GP attitudes and beliefs in the effectiveness of treatment within different groups.

SECTION 4

ACUTE SERVICES

INTRODUCTION

This section covers elective and emergency care and includes inpatient and outpatient services. Some research has focused on utilisation of outpatient and inpatient care as a whole (mainly based on GHS data), whilst other studies focus on a particular disease or specialty. These are considered separately within each section. Most studies which look at admissions generally do not distinguish between emergency and elective admissions. There are a few exceptions which are included in the relevant sections (eg geographical access to A&E, emergency admissions for asthma) and some studies focus on particular procedures (eg cataracts, hip replacements) which are largely elective. Other research on A&E services has tended to focus on quantifying “inappropriate” admissions. These are not included in this report as they do not shed light on equity of access because although some of them suggest that high attendance at A&E by particular groups may reflect inequitable access to primary care, this has not been examined directly.

A large body of knowledge has been generated concerning equity of access to investigations (angiography) and surgical revascularisation for coronary heart disease (CHD) and a lot of careful analysis has been undertaken on this topic. The effectiveness of coronary artery bypass grafts (CABG) and percutaneous transluminal coronary angioplasty (PTCA) has been established and these are the preferred options for patients with angina (other than those with mild disease) and following acute myocardial infarction (MI). CABG can offer a survival advantage over both medical therapy and PTCA for those with severe disease.¹ Various targets have been set by Royal Colleges, Expert Committees and the Department of Health for minimum numbers of procedures per head of the population and although overall activity has been rising over the years,² there appears to be a consensus that the current rates are still low. Large variations in rates between areas have been found and research has sought to explain inequalities in use. Many of the arguments advanced to explain apparent inequities in this area have applications beyond the specific disease group and are useful in the interpretation of results from other studies. Partly because of this, and also because the burden of illness from CHD is so large¹ and the treatments available are widely recognised as effective, discussion of this topic is quite detailed.

This paper does *not* consider the large literature which has come to be associated with the label “medical practice variations”. This tends to present a large volume of data on geographical variations in rates of specific procedures or admissions, standardised for age and sex but without any further analysis of corresponding variations in need. The focus of this work has been on the degree to which the presence of clinical uncertainty can influence variations in practice³ and although this may have substantial resource implications, it does not shed light on whether the variations represent inequity in access. Although the observation of wide variations in rates can suggest an area for further investigation (for example, observed variations in rates of coronary revascularisation sparked off research on

inequities in access to these services), it does not by itself help to determine the likelihood of systematic inequity in access.

Access to inpatient and outpatient care depends not only on decisions taken in the secondary sector, but also by the behaviour of patients and GPs in primary care. The GP often performs a gatekeeping function and thus controls access to secondary care through referral behaviour. Explanations for inequities which are apparent at the level of outpatient and inpatient care should therefore take into account possible inequities arising in primary care. Evidence on GP referrals in general is presented in the first sub-section of each dimension of inequity. However, the results of research focusing on GP referrals for specific conditions are discussed in the appropriate service sections as the findings are usually used to explain access to secondary care.

(1) Ethnicity

Evidence:

There are difficulties in interpreting studies which do not consider the role of socio-economic factors as well as ethnicity as the former have been found to influence utilisation of acute services.

(a) General evidence

1.1 Outpatient

* *Lower* rates of reported attendance for outpatient care have been found in some minority ethnic groups relative to whites, even after adjusting for age and socio-economic factors. GHS data unadjusted for “need” suggest that Indian boys and males aged 16-44 are less likely to attend (50% and 43% respectively); as are Indian and Pakistani girls (71% and 61%).⁴

* This is partly confirmed in a study⁵ which did attempt to control for “need” and also for socio-economic factors. In the 0-44 age group most minority ethnic groups are less likely to report an attendance compared with white people, with rates for the Chinese being particularly low: Pakistanis (42% lower); Bangladeshi (35%); Indians (39%); Caribbeans (39%); mixed/none (76%) and Chinese (75%).

* In older age groups, the picture appears to change and although most minority ethnic groups have rates similar to the older white groups, *higher* rates are seen amongst Indian males and females (75% and 80% respectively) when need is not accounted for;⁴ and amongst Caribbeans (40%) and Africans (twice as likely) when need and socio-economic factors are included.⁵ Interestingly, the latter study finds a strong interaction between Indian ethnicity and illness in that those who do report illness display disproportionately high levels of utilisation.

1.2 Inpatient:

* Where need has not been taken into account, but adjustment has been made for socio-economic factors,⁴ no significant association between ethnic group and hospital utilisation amongst males has been found but Pakistani females had higher utilisation than whites (over twice as high) amongst those aged 6-44 years. Higher rates were also found in the older age group but the difference was not statistically significant. Little difference was also found in the results from the fourth national survey of ethnic minorities which controlled for age and sex and also attempted to make allowance for differences in need by classifying respondents into 3 groups based on self reported health.⁶ There was very little difference between groups in the proportions reporting an inpatient stay in previous years, although amongst Chinese people in fair or poor health, the proportion reporting a stay was between half and two-thirds lower than in the equivalent groups. Small numbers make interpretation difficult and no statistical analysis was presented.

* The general results are again largely supported by the studies which attempt to include "need" as well as adjusting for age and socio-economic group: some have found no differences with respect to ethnicity;⁷ others report lower rates amongst younger Indians (20%) and higher rates amongst Pakistanis (20%).⁵ An interaction between SEG and ethnicity and ethnicity and gender suggests that Indian women are about 40% more likely to report inpatient utilisation than their peers.⁵

1.3 GP Referrals:

* It has been suggested that people from ethnic minority groups are less likely to receive a referral from the GP,⁸ although this study did not adjust for need. Referrals in relation to CHD and other specialties are discussed in section 1(b) and 1(c).

(b) Coronary Heart Disease

Evidence

1.4 Death rates from CHD are about 40% higher for South Asians than in the general population,⁹ which may be associated with particular risk factors such as diabetes and levels of saturated fat in their diets.

1.5 However, research suggests that they may receive less treatment both at the referral and hospital treatment stages:

* Even after controlling for socio-economic and geographical factors, a recent study in 2 health authorities¹⁰ found that rates of angiography and CABG were lower amongst men living in areas with a high proportion of Asian residents even though SMRs for CHD were higher in these areas. A smaller study of matched pairs of white and Indian patients suggested no differences between groups in the rate of angiography or CABG although the latter took longer to arrive at the hospital and follow up showed they were twice as likely to die after adjusting for risk factors and co-morbidities.¹¹

* Amongst those referred for angiography due to suspected angina, those of Indian origin were likely to have to wait longer to see a cardiologist when compared with white patients at the same clinic (5 times more likely to wait more than 11 months)¹² even after matching for severity of disease, age and sex. Following myocardial infarction (MI), fewer Asians than Europeans were referred for exercise stress tests, even though the results of the tests showed that they may have had more severe disease at the time of presentation.¹³ Asians also experience a longer delay in being admitted and receive less thrombolytic therapy than Europeans.¹¹ This latter group of studies did not control for socio-economic status which may have a confounding effect.

(c) Other specialties:

1.6 The use (“acceptance rate”) of renal replacement therapy (RRT) for end stage renal failure has been observed to be between 3-5 times higher amongst black and Asian people than white people.^{14,15,16} Geographical factors and deprivation may play a part and thus there is a possibility that higher rates are due to people from ethnic groups living in areas which are more deprived and closer to a renal centre (this is discussed further in later sections). However, a study which controlled for other possible confounding factors and used national data from all renal centres, still found a higher rate of use amongst this group, although the differences between groups were reduced substantially compared with the results from other studies.¹⁶ As Asians experience higher levels of diabetes and hypertension which are serious risk factors, it is likely that they also are in greater “need” of RRT, so this might explain higher use amongst this group.

1.7. Despite similar rates of prevalence of atopic dermatitis in Asian and non-Asian communities in Leicester, referrals in the former group were over 3 times as high as in the latter.¹⁷

Explanations:

Supply

1.8 Higher rates of in-patient care amongst Pakistani females of child-bearing age are probably explained by the higher fertility of Pakistani-born women compared with white women.⁴

1.9 As utilisation of GP services tends to be equivalent or relatively high amongst many ethnic groups compared with rates for whites (see section 2), it has been suggested that the equivalent or relatively low use of outpatient and inpatient care in some groups might be due to referral behaviour in primary care.⁵ The findings in relation to CHD appear to bear this out although lack of control for socio-economic factors in some of the studies makes it difficult to say with confidence that this is due only to ethnicity. Lower rates of both GP consultations and outpatient and inpatient care amongst the Chinese population is suggested by the small amount of research available, so this does not fit this general pattern.

1.10 It has been suggested that if a higher proportion of consultations amongst minority ethnic groups are for non-serious complaints, then rates of referral are bound to be lower.¹⁸ However, the most recent analysis¹⁹ of Morbidity Statistics from General Practice suggested that consultation rates for illness classed as “serious” was higher in some minority ethnic groups compared with whites.

1.11 For CHD, low referrals amongst some groups may be due to higher levels of co-morbidity which makes patients less suitable for surgery. Asians with MI experience higher levels of diabetes which makes them likely to have more diffuse CHD than non-diabetics and has been shown to increase mortality and risk of reinfarction. However, this was not confirmed in the recent study of long term outcome amongst those from the Indian Subcontinent.¹¹ Levels of smoking are generally low amongst ethnic minorities which suggests that in this respect they should be *better* candidates than other groups for surgery.

1.12 If doctors find it more difficult to make a diagnosis of CHD for people from ethnic minorities, then this may account for late referral to the secondary sector in terms of the stage of disease. Doctors in areas with a high proportion of Asian residents report that the latter tend to report lots of diverse symptoms in one consultation which makes CHD difficult to diagnosis.¹⁰

1.13 Communication problems may make it difficult to reach decisions on treatment and some GPs with high proportions of people from ethnic groups in their practice have indicated that lack of interpreters at the hospital was a problem for patients with CHD.¹⁰

1.14 Genuine biases against ethnic minorities may exist although these are difficult to investigate and confirm. A very small number of GPs in the interview study by Gatrell et al¹⁰ said that they believed the hospitals offered less aggressive treatment on referral due to biases amongst hospital doctors.

Demand

1.15 Late referral by GPs may be due not only to their behaviour but also to differences in perception and interpretation of symptoms amongst patients which may influence the stage at which they present to the GP.

1.16 A lack of familiarity with symptoms of atopic dermatitis has been suggested as an explanation for the *higher* rates of referral of Asians to dermatology departments despite similar prevalence rates to the rest of the population, suggesting that this group felt they needed reassurance.¹⁷

1.17 It has been suggested that people from ethnic groups may be less likely to take up offers of surgical intervention even though there may be no differences in the propensity of the GP to offer referral or the surgeon to accept them for surgery. However, there is no firm evidence for this hypothesis.

(2) Socio-economic Factors

It is a generally accepted finding that those who are disadvantaged have higher rates of morbidity and mortality than those who are better off (several studies quoted in O'Donnell and Propper²⁰), suggesting higher levels of "need" in the former group.

Evidence:

(a) General Evidence

2.1 Outpatient:

- * Multivariate analysis²¹ of rates of attendance at outpatient or accident and emergency clinics from GHS data for males only suggests that those most likely to attend were manual workers (12% higher), council tenants (21%) and those from an urban area (18%). Car ownership was not significant. This study did not control for need.
- * Controlling for "need" (analysis by groups "sick" or "not sick"), GHS data for 1982²² suggested no significant trends with occupational group, tenure or car availability (the relationships between car availability and rurality are discussed in the section on geography). Multivariate analysis of OPCS Omnibus Survey data from 1991,²³ found that having controlled for "need", none of the socio-economic factors were significant (findings related to age, sex and geography are discussed in the relevant sections)
- * Analysis of GHS data which considers the link between income and utilisation attempts to control for need by analysing the latter within different morbidity groups reflecting self reported health status.²⁰ A "pro-poor" pattern for outpatient visits is found for those reporting "not good" health (richest quintile get 20% less) and those with limiting long standing illness whilst an inconsistent and non-monotonic relationship (but generally pro-poor) is found in other morbidity groups. A caveat applies as the authors present evidence from the Health and Lifestyle Survey which suggests that among individuals classified by self-reported morbidity groups, those in lower income groups are likely to experience worse health status, suffering multiple and more serious conditions, than those in higher income groups. The implication is that although there appears to be a pro-poor distribution in utilisation, this may in fact not be the case if the poor experience more sickness *within* each "need" group.

2.2 Inpatient:

- * Analysis at area level has suggested a strong positive relationship between admission rates and deprivation scores, at least for some disease categories^{24,25}
- * Using GHS data, council tenants were more likely to be hospitalised than owner occupiers (33%), and although this was also true for manual workers and those with no car, the differences were not statistically significant.²¹ This study did not control for need.

* Controlling for need, a higher proportion of those in unskilled manual occupations in both the “sick” and “not sick” categories (18% and 10% respectively) reported in-patient stays in the 1982 GHS, compared with professional groups (14% and 8%), although there was no consistent relationship through occupational groups.²² Similarly, in the “not sick” group, more of those in rented accommodation with no car reported an inpatient stay compared with owner occupiers. An analysis based on Omnibus Survey data²³ which controlled for need, found that individuals with no access to a car were more likely to use in-patient services (11%); whilst those who were self-employed or worked part-time were less likely to use them than their counterparts (12% and 14% respectively).

* The results of O’Donnell and Propper’s study²⁰ described above for outpatient care produced a similar picture for inpatient care. However, the same caveat in relation to patterns of health status within morbidity groups applies. A recent study²⁶ revealed that indicators of poverty were positively associated with length of stay which reinforces the possibility that those who are poor may actually require more care per episode than those who are also sick but are less disadvantaged. A more recent analysis of inpatient care using British Household Panel Data²⁷ illustrates a pro-poor distribution, with the average number of inpatient stays amongst the poor group being around twice the number in the richest.

2.3 GP referral:

The results from older studies (summarised in Hippisley-Cox et al²⁸) have been equivocal, with some showing patients from higher social classes are more likely to be referred, whilst others show the opposite or no clear pattern.

* Most studies have failed to take into account the consulting rate amongst different groups which is clearly an important factor if there are systematic differences in consultation rates between groups (see section 3). An analysis of data from the third National Morbidity Survey in General Practice²⁹ calculated referral rates per 1000 people consulting and found no significant differences in referral rates by social class (manual versus non-manual).

* A more recent study²⁸ finds that after taking into account practice characteristics and age of practice population, deprivation at the practice level has an independent and positive impact on referral rates for total number of referrals and for medical referral (explaining 29% and 39% of practice variation respectively). The relationship with surgical rates was in the opposite direction but was not statistically significant. The referral rates did not take into account consultation rates which makes it difficult to draw conclusions about whether or not referrals reflected higher levels of need.

(b) Coronary Heart Disease

Mortality rates for ischaemic heart disease (IHD) show a socio-economic gradient (more deaths in more deprived groups); those living in the most deprived areas have an increased chance of having an acute myocardial infarction (MI) and a reduced chance of surviving when compared to more affluent groups.³⁰

2.4 In general, the weight of evidence suggests that admissions and rates of investigation and revascularisation do not match “need”.

* Some studies have reported lower rates (CABG and PTCA) in areas with the highest SMRs for CHD,^{2,31} as well as low rates for males in the most deprived areas.³² Admissions for angiograms amongst a community sample were higher in the 10 most affluent wards than in the 10 most deprived (11.2% versus 4%) even though the survey showed higher prevalence of symptoms in the most deprived areas.³³ Revascularisations per head of population with angina symptoms in the deprived areas was half the rate found in the more affluent areas. Particular areas have been highlighted as experiencing the “inverse care law” in this respect.³⁴

* Studies which *have* found higher intervention rates in more deprived areas have reported that the gradients are not as steep as they would need to be in order to match the socio-economic differential in mortality.^{10,32,33,34} The chances of admission to hospital following MI decreases with increasing deprivation, with those in the most deprived areas around 20% less likely to be admitted than those in the most affluent areas. However, one study failed to find any relationship between deprivation and angiography rates in Northern Ireland.³⁵

* In some areas, the matching of revascularisation rates to need appears to be declining over time, suggesting greater inequity.²

* If intervention rates increase with geographical proximity to treatment centre,^b there may be some confounding in the interpretation of the link with deprivation as tertiary centres tend to be located in inner-city areas which are also more likely to have a high number of deprived wards. This argument has been advanced to explain why a negative association between intervention rates and SMRs can exist despite observing both higher rates within deprived areas³¹ and males in the most deprived area having the highest number of operations.³²

(c) Other Specialties

2.5 Using consultations with a GP for a condition amenable to surgery as an indicator of “expressed need”, age-sex standardised consultation rates (at individual level) and operation rates (at area level) were compared for 6 conditions in NE Thames.³⁶ Amongst conditions for which higher consultation rates were associated with lower social classes, only in the case of varicose veins did operation rates mirror this pattern; for hernia and gallstones, operation rates were unrelated to deprivation; and for arthritis of the hip, operations were lower in areas with higher deprivation scores. The authors suggest this is evidence that whilst disadvantaged people consult their GPs about these problems, they are then less likely to get referred on for surgery than the more affluent.

2.6 Higher rates of admission for asthma appear to be associated with greater levels of deprivation. In the West Midlands,³⁷ higher rates were found in more deprived areas of the region and this relationship also was found within a relatively

^b The evidence for this is considered later in the section on geography

affluent district with low overall admission rates. Similarly, higher rates of admission for asthma and other respiratory conditions were associated with deprivation at area level independent of an association with levels of air pollution.³⁸ These studies were not adjusted for need and it is noted that some studies have found higher rates in higher social classes and others have reported no relationship with class. Mortality from asthma is one of the few diseases which does not show a relationship with socio-economic indicators at district level,³⁷ although a very recent study using national data found that mortality was associated with the proportion of districts with head of the household in social class IV and V and the proportion with no access to a car.³⁹

2.7 Higher rates of use of renal replacement therapy are associated with deprivation at ward level in Thames areas¹⁵ and Wales,⁴⁰ although there is an interaction with geography as renal centres tend to be situated in inner-cities (see the section on geography). An independent effect of deprivation at ward level on utilisation has been found using national data¹⁶ and controlling for other possible factors although it was more important in explaining use in non-metropolitan areas. In London and metropolitan areas, ethnicity had the main impact on utilisation. A smaller study in Grampian did not find a relationship with deprivation (reported in Roderick et al¹⁶). None of these studies control directly for need - there is an inverse relationship between mortality from renal disease and social class as well as social class gradients in risk factors such as hypertension and diabetes, which suggests "need" may be higher in deprived areas.¹⁶

2.8 Age standardised admissions for diabetes have been found to be twice as high in deprived areas than in more affluent areas.⁴¹

2.9 In an audit of over 5000 patients undergoing prostate procedures, men who were in higher social classes (and older) were more likely to undergo prostatectomy with fewer symptoms than those from lower classes.⁴² Those from higher social classes were more likely than others to be receiving private care and waiting times were shorter for this group than for those receiving NHS care. Amongst those on the NHS waiting list, there were no differences in waiting times by education or social class.

Explanations:

Supply

2.10 Higher rates of referral, admission or operations may be due to higher levels of need. As described above, some of the studies attempt to control for this by using mortality, severity of illness or consultation rates in general practice as proxies for "need". However, it is possible that there may be systematic differences in the severity of illness which cannot be captured in simple measures or that those who do not get referred tend to have co-morbidities which may make them unsuitable for referral. Thus, some of the people who consult their GP for a condition amenable for surgery may not then be referred on due to the presence of other illnesses.³⁶ For example, it may be the case that those from deprived areas experience more severe diabetes due to higher levels of IHD in this population.⁴¹ This might also be the case

for asthma which might help to explain why the higher rates of admission in deprived areas do not reflect higher prevalence or mortality (although as explained above the latter has not been established definitively). However, this does not appear to be the case for prostatectomy as those who received surgery had less severe symptoms than those from lower classes.⁴²

2.11 It has also been suggested that many hospital admission for both asthma and diabetes are potentially avoidable if there is adequate management of the disease in primary care setting. Thus higher rates of admission may indicate that people from deprived areas receive poorer quality health education and primary care aimed at controlling their condition than those from more affluent areas which increases the chance of people from the former group being admitted to hospital.^{37,41} Analysis of the route of admission for asthma patients in the West Midlands revealed that a significantly greater proportion of admissions in people from deprived areas came via self-referral to A&E departments rather than from GP referrals.³⁷ It has been shown that asthma cases presenting to A&E are more likely to be admitted than those via the GP as attacks are more severe in the former group, thus suggesting that those from more deprived areas may be getting poor care in the primary care sector.

2.12 Behavioural factors may vary between groups, making some better candidates for treatment than others. The anticipated gains from surgical intervention for CHD are less amongst those who smoke.⁴³ Those from lower socio-economic groups who are more likely to smoke may therefore get referred and treated with revascularisation less frequently as they are seen as poor candidates. It is not easy to investigate this in studies which use area level data, although some have estimated that even if smoking is twice as high in the deprived areas, this would still only explain half the variation in revascularisation rates between deprived and affluent areas.³³

2.13 Biases amongst doctors which are unrelated to need may exist. There is some evidence (for CHD) to suggest that independent of severity of disease, some GPs are more likely to refer the economically active and those with dependants⁴³ and being economically active has been found to be associated with a shorter waiting time between angiography and angioplasty.⁴⁴

2.14 The lack of association between deprivation rates and surgical referrals as opposed to medical referrals, suggests that perhaps there is less uncertainty about the need for referral for the sort of problem presented for the former (eg lump) rather than the latter (eg fatigue, headaches).²⁸ This is supported by an analysis⁴⁵ of the effect of pressure (ranked on a 3 point scale) felt by GPs for out-patient referrals during one week. It suggested that aside from doctor-related characteristics (being younger and educated in the UK), pressure was felt to be greatest amongst patients who were referred for reassurance rather than for treatment, opinion or investigation.

Demand

2.15 Those in higher social classes may be using private care as a substitute for NHS care which may mean they receive more care than they "need" despite

relatively low use reported in studies. Although some studies include use of the private sector in their analysis,²⁰ many do not, but there are indications that this could be an important omission, especially if employers are increasingly offering private health insurance to their employees. For example, a longitudinal study⁴⁶ of all admissions over a 7 year period amongst a cohort of men and women aged between 36 and 43 years, showed that whilst only 11% of male and 16% of female admissions were privately funded in 1982, these figures have risen to 26% and 21% respectively by 1989. As expected, use of private care was significantly higher for those in higher household income groups. For CABG and PTCA, more than 22% of cases may be privately funded in some regions.⁴⁷ However, as the inclusion of such data is likely to boost activity amongst the least disadvantaged this would serve to exacerbate rather than to dilute the inequities on these dimensions. Those studies that do include private sector activity (eg Black²) find evidence of inequities in CHD care.

2.16 Systematic variations in compliance rates for outpatient attendance may result in lower actual attendance rates for some groups even if they are given similar numbers of appointments. A comparison of attenders and non-attenders for a paediatric clinic in Leeds⁴⁸ found that parents of non-attenders were significantly more likely to be in a lower social class, poorer housing, unmarried parent and have a longer journey (the latter is considered later). Some characteristics of supply were also important as those who received an appointment by post rather than having had it assigned at a previous visit, were more likely to be non-attenders. Parent's perception of the severity of illness did not affect attendance rate and indeed illness was rated as more severe amongst non-attenders.

2.17 Late referral may also be due to patient characteristics rather than the behaviour of GPs. Those who are less well educated have been found to be less aware of the significance of symptoms such as arm and chest pain and thus may delay seeking help (quoted in Morrison et al³⁰) and it has been suggested that those from lower social classes may be more stoic in terms of the degree of ill health they expect to put up with.³⁶

(3) Geography

Evidence:

Many studies have looked at the impact of geographical accessibility on service use in the acute sector. This is usually measured in terms of the volume of the service available such as numbers of staff or specialist centres within areas or by distance/travel time to the hospital. In general, there is some evidence to suggest that distance from service is an important determinant of utilisation, but there are differences depending on the nature of the service

(a) General evidence

3.1 For outpatient care, most of the UK evidence suggests that distance between the patient's home or the general practice surgery and the clinic affects attendance at out-patient clinics for some services eg by reducing utilisation⁴⁹ or by delaying the

first ante-natal visit.⁴⁹ Similarly, non-attenders at a children's clinic were more likely to face a longer journey than attenders.⁴⁸ However, distance was not reported as an important factor for attendance at cancer clinics and clinics for day case cataract surgery, even though the distances involved were substantial for some patients (eg up to 60 miles).⁴⁹

3.2 For in-patient care, much of the evidence cited in recent reviews^{49,50} is based on data from the USA and as it is not clear how relevant these results are to the UK, they are not considered further here. Area level studies which seek to relate utilisation rates to distance or travel time from the ward in which patients live or from the practice and the hospital have generally found evidence of a negative relationship, at least for some types of operation.^{25,49} Whilst some of these do not adjust for need or other factors which may influence utilisation, the findings of those that do make adjustments (partial or full) are in the same direction. More recent work (summarised in Carr-Hill et al⁵⁰) undertaken at the area level in England and Northern Ireland suggests a positive relationship between a measure of accessibility (based on distance) and service use for general medicine.

3.3 Studies have also found a negative association between rates of admission for in-patient care and the proportion of people living in a rural²² or non-metropolitan area, even after controlling for socio-demographic and health factors.²³

(b) Coronary Heart Disease

3.4 The interaction of geographical proximity with deprivation was noted earlier and whilst the results of some studies may be influenced by local variations in the organisation of services as they rely on local data, others have been undertaken on a national basis. This may reduce the impact of supply factors and some (considered below) explicitly control for these factors. The results are not conclusive but overall there is more evidence to support a link between proximity and utilisation of CHD investigations and surgical treatment than to refute it:

* Operation rates in wards in districts without cardiothoracic facilities within their boundaries ("far") were around half as high as those with the facilities ("near").³²

* Higher rates of revascularisation were found in regions with higher staffing levels. In districts higher rates were associated with the presence of a local cardiologist and with less distance from a specialist centre.^{2,31}

* However, Gatrell¹⁰ reports that distance (travel time) from tertiary centre had little impact on intervention rates and that in one of the HAs investigated, small areas which were distanced from the main centres did as well as those near the centres. Lack of a relationship between distance and hospital for cardiac surgery has also been reported in a recent study in Northern Ireland (summarised in Carr-Hill et al⁵⁰).

(c) Other specialties:

3.5 In a recent study (quoted in Carr-Hill et al⁵⁰) using data from England and Northern Ireland, utilisation of more specialist services^c was much less sensitive to distance and no relationship was found for some services (such as rehabilitation, nephrology, cardiac surgery). Moreover, when accessibility was used in a model along with a range of socio-demographic and other factors to predict utilisation rates, it was not found to be a significant determinant. Indeed, a counter-intuitive negative relationship between accessibility for use of elective surgery beds was found for Northern Ireland.

3.6 For A&E services, reviews^{49,50} of the literature suggest a clear distance-decay effect for self-referral in studies based in Scotland, Norfolk, Bristol and Northern Ireland.

3.7 Variations in the availability of specialist services throughout the country have been reported in a number of studies undertaken by the Clinical Standards Advisory Group but further analysis is required before claims of inequity can be validated in all these services. For example, whilst detailed analysis on matching “need” to rates of CABG was undertaken,^{2,31} variations in district admission rates for cystic fibrosis (CF) could not be related to the prevalence of patients with this condition as the relatively small numbers would have compromised confidentiality.⁵¹ Questionnaires completed by parents of CF patients revealed that many believed they had limited access to certain type of service either because their GP would not refer them or because of distance from the centre. However, this sort of information by itself is insufficient to conclude that systematic inequity exists.

3.8 Distance between ward of residence and specialist renal units has been found to have an independent negative effect on utilisation of renal replacement therapy after controlling for deprivation and ethnicity, using national data.¹⁶ This effect was most significant in non-metropolitan areas and weakest (but still significant) in London where only 20% of the population lived more than 26 minutes from a renal centre. A significant interaction between age and distance was also apparent in non-metropolitan areas with older people living further away having lower utilisation rates than those living nearer. A study in Wales reported a significant negative effect of distance on referral of patients to renal centres in those aged 60 and over, but not in the younger groups.⁴⁰

Explanations:

Supply

3.9 GPs may be less likely to refer those who live further away from the treatment location in the belief that they would not want to travel or they may be unaware of the type of services available at distant units. The interaction between distance and age which was mentioned above for some services suggests that GPs may believe

^c Speciality level analysis was only possible for Northern Ireland

that the overall benefits to older people from travelling to distant clinics may be outweighed by the costs in terms of the detriment to their health.

3.10 However, more complex explanations are suggested by the results of Gatrell's interview study¹⁰ of the referral process for CHD and the views of doctors in different parts of the system. Whilst most GPs referred to doctors working in local DGHs who then decided whether or not to refer on to the specialist cardiologist in a tertiary centre, those whose practices were close to the tertiary centre tended to refer direct to the specialist hospital. As doctors in these hospitals were found to be far less conservative in their approach to treatment, it is likely that those who are referred to them direct will get treated, whilst others with possibly more serious disease will still be on the waiting list for referral to the centre. Whilst this may suggest there is potential for inappropriate care due to *better* access, as noted earlier there appears to be a consensus that overall rates of CABG particularly are too low at present which suggests those who are not getting treated due to distance may indeed be worse off.

3.11 Unequal rates of revascularisation and provision of staff across regions was noted in 1993⁴⁷ and purchasers were encouraged to ensure they met the minimum targets set by the Department by increasing provision. A few years later,³¹ some purchasers report that they have had to manage and finance a surge in demand following a trend to have cardiology outpatient clinics held in DGHs, especially in those districts with traditionally low referral rates. This suggests that prior to such developments there was a lack of case finding amongst GPs and DGHs located away from tertiary centres.

3.12 For patients already on a waiting list for surgical procedures, sudden cancellations in catheterisation laboratories would be more easily filled by patients living near the centre than those from far away.¹⁰

Demand

3.13. It has been suggested⁴⁹ that people are likely to drop out of outpatient and day clinics because of the distance involved if they do not view them as important. This would help to explain why the relationship with distance has not been found in clinics related to cancer and cataract surgery.

3.14 If low attendance is linked with attaching a lack of importance to the clinic, this implies that those who choose not to attend are likely to be less seriously ill (and have lower "need"). This was not the case for non-attenders at the child health clinic whose children were rated as being more severely ill than the attenders.⁴⁸

3.15 A deterrent effect of distance may be greater amongst those who do not have access to a car. Haynes²² found that amongst those reporting illness, use of hospital services was lowest amongst those in the most rural areas with no car, but the small numbers in the rural groups meant statistical significance was not reached.

3.16 It is possible that those who have a particular disorder will choose to locate themselves near a specialist treatment centre, especially if these tend to be

unevenly distributed throughout the country. This does not appear to have been addressed in the literature although it may be a reasonable hypothesis for chronic conditions such as renal failure or cystic fibrosis.

(4) Age and Sex

These are considered together, as they often have been found to be inter-related.

Evidence:

(a) General evidence

4.1 Most studies of the use of inpatient and outpatient services as a whole tend to control for age and sex which are known to be factors affecting utilisation, rather than examining them directly. Gender and age become more important when access to specific services is considered and these are reported in sections (b) and (c).

* After controlling for self reported illnesses, higher rates of hospital utilisation have been found amongst young women (probably reflecting childbirth) and those with children under 4 years old and amongst older men (over 75); whilst middle-aged men appear to have lower rates.²³

* The fourth Morbidity Survey from General Practice¹⁹ revealed that referrals per person years at risk were higher in older age groups and between the age of 16-64 years, rates for women were higher than men and thereafter this was reversed. Referral rates to inpatient beds were relatively high in children and higher for women than men until the age of 65-74 years and thereafter this was reversed. Referral rates for private consultations were highest in men and women aged 45-64.

(b) Coronary Heart Disease

Fewer women than men experience acute events but mortality rates for CHD are constant for women, whilst they are falling over time for men.¹⁰ Prognosis for women following MI may be worse than for men at first (first 30 days) but thereafter survival rates are similar. There is increasing evidence to suggest that good outcomes from surgical intervention can be achieved in older people.⁵²

4.2 In general, women appear to be less likely to be admitted to hospital and may receive less revascularisation than men even after accounting for lower "need":

* After adjusting for severity of illness in admissions following suspected MI to a Nottingham hospital, women were found to be admitted later after onset of symptoms, less likely to be admitted onto the coronary care unit (CCU) and less likely to receive thrombolytic therapy when compared to men. Thrombolytic therapy is given only to those in the CCU and once admitted there were no differences in receipt of this treatment.⁵³ In this study, women were also significantly older than men on admission and older women had the least chance of admission to CCU. A lower proportion of women than men were admitted to hospital following a MI in

Glasgow.³⁰ In South Thames,⁵⁴ women were as likely as men to be admitted with IHD (after age adjustment) but were then around 60% less likely than men to have further investigations and revascularisation. In contrast, others have suggested that although less women than men are referred to cardiology clinic, the gender bias is then reduced at the stage of investigation and intervention.⁵⁵

* This gender difference in revascularisation rates has also been found in other studies in which rates for women have been less than half that for men in Northern Ireland,³⁵ in two Thames regions⁵⁶ and also at district level for reperfusion treatment amongst those admitted to hospital with CHD.⁵⁷ Others have reported rates for men three and a half times higher than for women,⁵⁸ although the latter did not adjust for severity. Gattrell's study¹⁰ in the North West found that revascularisation rates were higher for men than women even after lower mortality rates for women were taken into account, but this was not statistically significant.

* Some have suggested that the apparent bias against women is actually a reflection of age bias as women with MI tend to be older than men.⁵² It should be noted however, that many of the studies which find significant gender differences do indeed control for age and find that although the gender difference may be reduced after age is taken into account, it still persists.^{54,56,57} Indeed some report that the differential is greatest amongst the older age groups. On the contrary, analysis of receipt of thrombolysis following MI suggested that although men were 25% more likely to get the treatment than women, this disappeared once age was taken into account.⁵⁹

4.3 In general, older people also appear to receive less treatment, despite increases in mortality and morbidity associated with age:

* The chances of being admitted to hospital following MI fall with age³⁰ and the chances of undergoing further investigation and revascularisation fall sharply after the age of 65 when compared with those under 65, with those in the oldest age group (85+) having only 3% chance of investigations and 2% chance of revascularisation compared to the younger group.⁵⁴ Lower rates amongst elderly groups and especially elderly females have been reported in other studies also.³⁴

* Overall however, patients undergoing revascularisation have been getting older over time and rates in older groups have increased faster than in younger groups.⁵⁸

(c) Other specialties

4.4 The interaction between age and distance has been commented on above in relation to renal care. Females have lower incidence of renal disease than males but there is a sharp rise with age. One study found that being old and female was associated with lower use of renal replacement therapy.¹⁶

4.5 A study⁶⁰ of age standardised cataract operation rates in SW Thames suggested that the majority of operations (65%) are performed on women and the

highest rates are found in the oldest age group (85+). The authors state that the gender difference is unlikely to be due to differences in prevalence.

4.6 A community survey in one health authority⁶¹ which measured severity of osteoarthritis with a threshold level for eligibility for surgery, found significantly higher rates of pain and disability which should qualify them for surgery amongst females, particularly in those aged 75 or over. Amongst this “eligible” group, almost a quarter of those aged 65-74 were on a waiting list for hip replacement surgery, but the equivalent figure for the over 75 group was only 3%.

Explanations:

Supply

4.7 For CHD, it has been suggested that women tend to have less severe disease at initial presentation and thus lower referral rates may be justified,⁶² but the evidence is not conclusive and most of the studies finding gender differences attempt to control for severity. Additionally, women are thought to experience slightly higher post-operative risks but again this is not conclusive and it is not clear why this exists (it may be due to having *more* advanced disease on referral - this is discussed later). Some GPs say they have seen increasing publicity about “unfair” treatment of women and claim this reminded them to be more alert to the need for referral.

4.8 Older people may experience greater levels of co-morbidity which may make them less favourable candidates for surgical procedures, but the age bias has been found in studies of CHD which control for this factor. Similarly, the community study of hip replacement⁶¹ controlled for co-morbidity by allowing for conditions reported which would have implied they were unfit for surgery.

4.9 Doctors may mistakenly believe that some groups cannot benefit as much as others or may exhibit biases which cannot be explained easily and this may affect their referral and treatment decisions. A small number of doctors (12%) in one survey⁴³ reported that they would give higher priority for CHD surgery to men than women, although there was no distinction made by doctors in this group (or amongst others) of differential gains from surgery in men and women. Other surveys have reported that doctors say they are neutral towards sex both as a criteria for referral and in assessing priority for revascularisation surgery.⁶³

4.10 In relation to CHD, some surveys have shown that GPs report they are more likely to refer younger patients compared with older ones with similar stage of disease^{10,43} and that they believe age should be taken into account in prioritising patients for revascularisation.⁴³ The reasons behind this are not clear and although some doctors appear to believe that older people will get less benefit from treatment compared with someone younger at a similar stage of disease,⁶³ others⁴³ have found the referral decisions on the elderly are independent of whether they believe the benefits are less or not. Whatever the reason, GPs appear to opt for a more “conservative” approach to the elderly, often referring to a geriatrician or general

physician rather than to a cardiologist.¹⁰ At the tertiary level however, doctors report that age is not an issue and that they would like to see more older people referred.¹⁰

4.11 Some GPs have reported that they find exercise ECGs more difficult to interpret in women than men and as they also see less women with CHD, they may be slower to recognise it in women than men.¹⁰ However, in this study, some GPs believed that this greater diagnostic uncertainty would encourage them to refer more quickly rather than less.

Demand

4.12 Later arrival of women at hospital following the onset of symptoms of heart problems may be explained by their help-seeking strategies. Women have been found to be more likely to call a GP once they experience symptoms and the GP then arranges the transport; whilst men tend to call an ambulance direct and thus arrive at the hospital sooner (quoted in Morrison et al³⁰). However, this does not tally with results showing that a higher proportion of deaths occurred before reaching hospital in men than in women.³⁰

4.13 Some GPs feel that the elderly would not want lots of investigations and referrals and also that the elderly who live a long way from specialist centres would be reluctant to travel so tend to be referred locally which may add to their waiting time overall.¹⁰ However, it is not clear whether this means they are given the choice and then refuse the offer (which is a matter of preference) or whether the GPs decide not give them the option in the first place.

4.14 It has been suggested⁶⁰ that higher rates of cataract operations in women may be due to different lifestyles between men and women which prompt more women than men to present with sight problems, although there is no evidence to support or refute this suggestion.

4.15 In relation to CHD treatment it is possible that PTCA and CABG may be used as alternative treatments (although the latest advice¹ suggests that these are reasonable alternatives only for a minority of patients), so lower rates of one procedure may be offset by higher rates of the other. This could affect all dimensions of inequity. However, the evidence does not support this as they appear to be highly correlated.^{31,47}

SECTION 5

MENTAL HEALTH

SUMMARY OF MAIN ISSUES

- * Adjustment for underlying “need” presents particular problems in mental health due to the scarcity of good epidemiological data on the prevalence of psychiatric morbidity amongst particular groups and the lack of an easy way of measuring self-reporting illness. Most studies are not therefore able to adjust for need at all. The recent national community survey of ethnic minorities goes some way towards addressing this for ethnic minority groups.
- * The definition and diagnosis of psychological illness is more subjective and open to interpretation than is the case for many other illnesses. This not only makes “need” difficult to measure, but also raises issues about “appropriate” care if the attitudes and views of health care professionals makes them more likely to categorise people from particular groups as mentally ill.
- * Relatively high rates of admission for schizophrenia amongst the young male Afro-Caribbean population and high rates of compulsory detention and physical treatments may not be completely explained by higher prevalence. It is possible that higher rates indicate lower quality care or inappropriate care for this group. Lower treatment rates amongst some Asian groups and possibly amongst the Chinese appear to be associated with lower “need” rather than inequities in access.
- * In general, higher psychiatric admission rates are associated with higher deprivation at an area level. Higher GP consultation rates for psychiatric disorders are associated with lower social class, unemployment and living alone at the individual level. There is insufficient evidence to decide whether this is a reflection of higher need amongst these groups as compared with the less disadvantaged or whether the latter make use of substitute services in non-NHS sectors for which utilisation data are not available.
- * Evidence relating to utilisation of mental health services in rural and urban areas is mixed. Studies suggest that those in rural areas have lower levels of “need” compared to those in urban areas, but findings on differences in utilisation rates are equivocal. Provision of services appears to vary throughout the country but research has not investigated whether these are systemic differences.
- * There does not seem to be any strong evidence to suggest inequity in relation to sex.
- * Most studies control for age when investigating variations in mental health utilisation (because of increasing prevalence with age) so it is not possible to draw conclusions about inequities relative to younger groups. However, as the elderly mentally ill are likely to have multiple problems and require services from a variety of sources, the potential for lack of co-ordination and inequity in the provision of adequate services for this group seems high.

* There appears to be a substantial concern in the literature about mental health and homelessness but it was not possible to consider this in detail within the remit of this review.

SECTION 5

MENTAL HEALTH SERVICES

INTRODUCTION

In addition to the general methodological issues noted in section 2, some specific issues arise in relation to the study of mental health services. Problems of definition, diagnosis and meaning arise in relation to psychiatry to a much greater extent than in many other services and specialities. This is because much of the diagnosis and subsequent use of services depends on the subjective assessment of reports or observations of people's behaviour. Whilst some measurement techniques and tests do exist for diagnosis and for monitoring progress, a great deal of the work of psychiatrists is based on more subjective views on the existence of psychological disorders. Moreover, the practice of psychiatry has been viewed by some as providing the scientific basis and the legislative and therapeutic justification for a particular way of dealing with deviant behaviour.¹ Coupled with the "unique privilege" of psychiatry to detain and treat people against their will (via the 1983 Mental Health Act), psychiatry has sometimes been attributed with sinister motives concerned with the suppression of behaviour which may threaten the social order.² Thus the interpretation of high rates of diagnosis and treatment amongst certain population groups is not as straightforward in psychiatry as it is in many other areas as the influence of supply side factors and in particular the attitudes and views of psychiatrists and other medical practitioners, assume a vital role.

The next issue relates to measurement of "need". Much of the research which examines utilisation at a general level, such as inpatient care and GP visits, uses self-reported morbidity (eg responses to questions on limiting long-standing illness in the GHS) to control for "need". In examining the use of mental health services, it is difficult to find a general indicator of "need" and, with the exception of studies which apply the relevant mental health assessment scales to a study group, most others report utilisation rates unadjusted for need. As surveys on the prevalence of psychiatric conditions in the community are rare, interpretation of "need" is very difficult. This issue has arisen most frequently when trying to explain high rates of use amongst some groups (especially ethnic minorities), as considerable debate has occurred about whether this is a reflection of higher levels of "need" or is an indicator of inappropriate treatment. This is discussed further in the section below on ethnicity.

Finally, much of the available evidence relates to the inpatient sector and very little data on the use of other forms of services such as outpatient and day patient care are available. This makes it difficult to draw conclusions about overall levels of inequity because the extent to which substitute services are utilised is not known.

(1) Ethnicity

Evidence:

1.1 Smaje³ summarises the results of the older but comprehensive studies which have examined rates of admission to psychiatric hospitals according to place of birth. These are not adjusted for “need” and most include an adjustment only for age and sex and not socio-economic factors.

These illustrate:

* South Asian migrants (India, Pakistan, Bangladesh, Hong Kong) have much *lower overall* inpatient admission rates relative to those born in England (average of 283 admissions per 100,000 population compared with 504).

* Caribbean migrants also have *lower* admission rates for diagnoses other than schizophrenia, especially for neurotic conditions, alcohol abuse and personality disorders.

* However, admission rates with a specific diagnosis of schizophrenia and paranoia show a different pattern as they are markedly higher amongst the Caribbean population (4.3 times the general rate in men and 3.9 the rate in women). Further analysis of the data shows that young Caribbean born men (under 35 years) are admitted to mental hospitals with a diagnosis of schizophrenia at 6 times the rate of native born men of this age.²

* Afro-Caribbean males diagnosed as having schizophrenia are up to three times more likely than people from other groups to be admitted or detained compulsorily; are more likely to be held in secure units and special hospitals and are more likely to receive “physical” treatments rather than less radical therapy.

* Admission rates for Pakistani women are only half that of the general population. Re-admission rates for Pakistani and Indian born women are half that of native born women.

1.2 In a study which examined admission rates of *immigrants* (for all diagnoses, not just schizophrenia) to psychiatric care in a London borough, rates for Caribbeans were high amongst men aged under 45 (almost double) and for women aged 15-24).⁴ Rates for Asians differed between Pakistanis and Indians, with Indian men having normal or slightly low rates and Pakistani men slightly high; Indian women had slightly high rates. Female Africans had very elevated rates, but men did not.

1.3 Other studies have used alternative sources of data (rather than psychiatric hospital admission rates) but again, most are unadjusted for “need” and with a few exceptions,^{5,6} they do not take into account socio-economic or other factors which may explain variations. In general, the results suggest:

* In general, age and sex standardised rates of GP consultation for mental disorders amongst the Caribbean population are lower than for whites.^{6,7} However, some have reported higher rates for Caribbean men.⁸

* Older black Caribbean and black African males are more than twice as likely to consult a GP for mental disorders than the equivalent white population; whilst younger (0-15) females in this ethnic group are much less likely (80%) to consult.⁵

* However, the most recent evidence from a national community survey⁹ shows little variation in GP consultation rates for anxiety, depression or mental, nervous or emotional problems amongst Caribbeans, Indians, African Asians, Pakistanis or Bangladeshis once adjustment had been made for scores on mental health scales.

* Most studies of South Asian populations have lower or equivalent rates of GP consultation for mental disorders when compared with the white population.^{5,6} The group most likely to be diagnosed by their GP as having significant psychological problems is white women, whilst women of African-Caribbean and Asian origin are least likely to have this diagnosis given in general practice.⁶

* Attendance of Asian children at psychiatric outpatient clinics appears relatively low compared with non-Asians and the size of the local Asian population.¹⁰

* Elderly Gujeratis in Leicester report lower use of support services such as psychiatric day care compared with white people. This was unrelated to differences in rates of dementia (so "need" was taken into account in this study).¹¹ Other local studies have also found lower than expected use amongst the elderly from ethnic minorities living in the community.¹²

* Generally low rates of use of support and community services in minority ethnic groups compared with whites are often cited¹³ but the evidence does not appear to be particularly systematic.

Explanations:

1.4 Whilst research on inequities in access is usually concerned to discover whether lower rates of utilisation reflect unmet need, research on the use of mental health services by ethnic minorities has tended to come from a slightly different perspective. Instead, the focus has been on whether *higher* utilisation of certain services is "justified" in terms of higher need, a concern which is based on issues about the way in which ethnic minorities may be viewed by the psychiatric profession (see introduction). Most attention has been given to explaining the apparent "schizophrenia epidemic" in the Caribbean population. The various explanations that have been put forward to support or refute the "epidemic" hypothesis are complex and cannot be considered in detail here, but are covered briefly below where appropriate. It should be noted that methodological problems may be important as drawing inferences about the underlying incidence of schizophrenia from the many retrospective studies which have examined hospital admissions data is difficult as the rates reflect a range of factors which are not easily identifiable or disentangled, including differences in case selection and definition.¹

Other possible explanations are considered below.

Supply

1.5 It has been argued that the ethnocentrism of British psychiatry may explain higher rates of admission for schizophrenia amongst some ethnic minority groups. One strand considers that psychiatrists are racist and are influenced by racial stereotypes, especially the perception that black people are more dangerous and anti-social than whites. Lipsedge reports on a study in which psychiatrists were more likely to diagnose a patient as potentially violent and psychotic if they were represented in the case vignette as Afro-Caribbeans than if they were white.¹⁴ Although this fits in well with the observations on higher numbers of compulsory detentions and physical treatment, other studies have shown more equivocal results and it is doubtful that all the differences could be attributed to racist behaviour unless it was on a massive scale.³

1.6 The social control argument (see introduction) suggests that the “medicalisation of racism” is responsible for disempowering and controlling disadvantaged groups, including those from ethnic minorities and this fits with the evidence on compulsory detentions amongst certain groups.

1.7 A third strand suggests that doctors may misdiagnose schizophrenia in black people for a variety of reasons, including the propensity to interpret less serious complaints as schizophrenia or to apply the western models of illness to groups who may have different experiences and cultural definitions of mental illness. Evidence on the extent of misdiagnosis is mixed but overall it seems to be no more common amongst the black population than the white² and does not seem to appear in other minority ethnic groups. Lower rates of consultation for mental health problems amongst the Asian population may also be explained by “somatisation”. This occurs when personal and social problems are expressed through the presentation of physical symptoms. There is some evidence to suggest this is more common amongst South Asian people than whites, but this has been challenged by others and some studies have suggested that somatisation is also common amongst all ethnic groups and amongst people from lower socio-economic groups.¹³

1.8 It has been reported that GPs may have negative reactions to Asian patients, regarding them as requiring longer consultations and trivial complaints which may make GPs less likely to diagnose their problems as mental disorders. Rack¹⁵ notes that GPs may have a stereotyped view of Asians with mental health problems, quoting a GP advisory handbook detailing how some Asian women may become “surgery haunters” as they live a lonely existence and a visit to the doctor may be their only culturally sanctioned outing.

1.9 Lack of access to interpreters for non-English speaking groups requiring services related to schizophrenia has been reported as a problem in some health authorities (due to their poor links with the relevant community groups)¹⁶ and lack of attention to the particular needs of the black population in designing psychiatric services which would be acceptable to this group has been highlighted by others.¹⁷

Demand

1.10 In relation to the higher rates of admission and diagnosis for schizophrenia amongst the Caribbean population, many explanations have focused on determining whether prevalence is raised in this group, suggesting that the higher rates are appropriate as they reflect higher need. These include : the hypothesis that there is an underlying genetic predisposition; that factors associated with migration play a role (selective migration and maladaptation theories) and the argument that the impact of experiencing prejudice and racist behaviour produces higher rates of schizophrenia. The latter does not hold water as other ethnic groups aside from Caribbeans experience similar racial prejudice but have lower rates of treated schizophrenia.² The migration hypothesis is also undermined by evidence that if anything, second generation Caribbeans are experiencing higher rates of schizophrenia than immigrants.³

1.11 On examining all the available evidence on this issue, Smaje concludes that, “..the existence of a genuinely elevated incidence of schizophrenia among the Caribbean population must be regarded as unproven. It seems probable that at least some of the excess is a methodological artefact, but this does not preclude the possibility of genuine differences”.³ Cochrane and Sashidharan² who also review all the evidence tend to believe that the elevated rate is real and that whatever the reason, attention needs to be paid to the nature and quality of services received by this group. The national community survey of mental health⁹ suggests that although the prevalence of non-affective psychosis amongst Caribbeans was found to be high compared with the white population, the difference is not as great as the treatment statistics suggest. The overall rate was twice as high but not statistically significant and was largely accounted for by higher rates in Caribbean women, rather than men.

1.12 Indeed, much of the research on this topic has looked at the differences between groups in their pathway to receiving mental health services and have reported a much higher likelihood of Caribbean patients being diagnosed as violent and admitted to secure facilities, detained against their will and given “physical” treatments rather than less radical therapy. This could be interpreted as an indication that this group receive inappropriate and thus low quality care.

1.13 Explanations for the apparently low rates of psychiatric admissions for black people (with diagnoses other than schizophrenia) and for Asian populations also vary. It has been noted that for the black population, it is impossible to draw conclusions about whether the lower rate reflects unmet need as there is little evidence on either the use of other forms of psychiatric services such as outpatient care or GP treatment and no data at all on the prevalence of these conditions in the community.² The exception noted by these authors is a survey of alcohol problems in black men and white men which was undertaken in order to explain the low level of admissions for this particular problem. The study found lower levels of drinking and associated morbidity amongst the black population, which suggests that lower use of hospital services reflects lower need, thus inequity was not apparent.

1.14 It has been noted that whilst it has become generally accepted that at least some of the higher rates of utilisation of psychiatric services by the black population reflects higher morbidity, the lower rates appearing in the Asian population have been seen by some as reflecting not better mental health but as a reflection of cultural differences and preferences. If mental illness holds a greater stigma for Asians than for other groups, they may choose not to seek care through fear of social pressures and damage of marriage prospects.¹⁴ Although there does not appear to be any strong evidence to support this hypothesis, there are some indications that whilst Pakistani and Bangladeshi people experience similar levels of morbidity for non-psychotic mental disorders to the white population, the treated prevalence rate is less than half the rate of the latter (reported in Cochrane and Sashidharan). Similarly, although it is possible to interpret the low re-admission rate for Pakistani women as evidence that their condition has improved (and there is growing evidence that the outcome of care following first admission is superior for Asians when compared with white patients), some still view this as a possible indication that they are lost to the system after discharge and may continue to experience morbidity. The most recent evidence on mental health status suggests a “relatively healthy South Asian population”⁹, although the author cautions against placing too much emphasis on the finding as the instruments used to measure mental health in the survey appeared to work less well in this group than in others.

1.15 It is possible that there are cultural differences in the interpretation and understanding of mental illness which may cause difficulties in communication. For example, some non-western cultures may lack a language for describing emotional states and it has been suggested that the Asian population tend to view mental health problems in terms of social dysfunction, so once they are functioning normally, there is no perceived need to explore the emotional or psychological condition.¹⁵

1.16 The low rates of admission for psychiatric care seen for the Chinese population does appear to be explained by low levels of need as several surveys have shown low rates of morbidity in this population,^{3,9} although most studies suffer from very small numbers. Other potential explanations have focused on the use in this population of alternative sources of help from traditional healers which may reduce the need for conventional treatment. However, most studies have either failed to find any significant use of such healers¹⁸ or find that these tend to be used as an addition to, rather than a substitute for, conventional care. It is difficult to tell whether other services are being used as substitutes as there is a lack of good research relating to the use of community mental health services.

1.17 Most explanations for the apparently low use of support and community services by people from ethnic minorities with psychiatric disorders focus on lack of knowledge of availability of services or services which are not considered by these groups to be very appropriate for their needs.^{11, 12}

(2) Socio- Economic factors

Evidence:

2.1 Studies undertaken at the area level have suggested a positive correlation between social deprivation and use of psychiatric services, using census variables as measures of deprivation.¹⁹ Indices of deprivation have also been shown to be good predictors of the need for psychiatric beds across health districts and of inpatient admissions.^{20,21,22,23} The geographical variation in the accumulation of new (post-1984 admission) long-stay psychiatric patients can be explained partly in terms of social deprivation using Jarman scores and with the local rate of unemployment.²⁴ However, some studies have failed to find support for a link between UPA score and psychiatric admissions or length of stay, with apparent initial correlations between admission rates and lone parent status disappearing once a multivariate analysis was undertaken.²⁵

2.2 Studies at the level of the individual are more useful as they are not subject to the “ecological fallacy” (see the methodology section) and in general those which address GP consultations support the findings related above as higher use of services is seen amongst those in lower social classes. For example, a strong social class gradient is apparent for GP consultations for mental disorders, with women in social classes IV and V (age 16-44) 60% more likely to consult compared with classes I and II. This gradient is reduced to 20% after all other factors are controlled for.⁵

2.3 Consulting rates for mental disorders are also higher amongst those who are unemployed, with unemployed men aged 16-44 consulting at twice the rate of their employed counterparts.⁵ Raised rates are also found amongst single people without children (30% higher for women, 50% higher for men); those living alone, compared with those cohabiting and the divorced, widowed and separated who live alone (double the rate for men aged 16-44 and 80% higher for women).

2.4 Some research suggests that the homeless tend to use the A&E services as a major source of psychiatric help²⁶ but others have failed to find increases in the use of A&E services for psychiatric disorders by the homeless population during periods where it seemed reasonable to assume that the size of the homeless population had increased.²⁷ It was not possible to consider the potentially complex link between homelessness and mental health within this review.

Explanations:

Data Problems

2.5 The failure of some studies to find a link between deprivation scores and psychiatric admission rates may be due to the difficulties of capturing all the key features associated with deprivation which are predictive of psychiatric admission rates. For instance, homelessness and divorce rates are not included but these might reflect social isolation rather than the financial deprivation which some scores tend to emphasise.

Supply

2.6 Health care professionals may have different attitudes to people with different socio-economic characteristics. A small study (n=96) which looked at the characteristics of those who were accepted or turned down from a rehabilitation and community care service in Nottingham suggested that those who accepted care were likely to be living alone and have a diagnosis of schizophrenia; those who refused help even though it was offered (this is a demand factor) were similar but many had a high level of support from family and other sources of care; those who were rejected by the service were all single and mostly homeless.²⁸ They were also more likely to have a primary diagnosis of personality disorder and have characteristics associated with being “difficult” (eg disturbed and irresponsible behaviour, history of contact with forensic services and inpatient stays). This suggests that although this group had a higher level of “need” than other groups (in terms of social functioning), the view of those running the service (perhaps viewing them as “too” needy) meant this group did not receive the service. It is crucial therefore to examine the nature of the service under investigation before drawing conclusions about inequities.

2.7 Given the difficulty of attaching diagnostic labels for mental disorders, it is possible that doctors more readily diagnose people from lower social classes as having mental disorders. One interpretation is that this suggests the possibility of “over-diagnosis” amongst these groups, but there may also be a potential problem of “under-diagnosis” of mental disorders in the higher social classes, if doctors are less likely to classify people from these groups as having a mental disorder. No evidence has been found to support or refute these propositions, so it is impossible to say which is most likely.

Demand

2.8 It is also possible that those with lower use of NHS mental health services use alternative sources of care and there is a wide range of private and voluntary sector counselling services which may be used as substitutes by those in different socio-economic groups, but we are not aware of any recent work which explores this issue. If homeless people are using the A&E service inappropriately as a substitute for other sources of mental health care, as discussed earlier, it is difficult to tell whether this is their preference or whether they face obstacles in accessing more appropriate sorts of care.

2.9 It is possible that there is a difference in perception of the degree to which mental health services can offer assistance and it may be the case that those from certain groups feel their doctor can do more to help them when they have mental distress than others do, but again, no recent evidence has been located.

(3) Geography

Evidence:

3.1 One study followed up 301 patients with psychiatric problems in primary care settings 3 years after identification in both a rural and urban practice.²⁹ When compared with those in the rural setting, those in the urban sector were significantly less likely to be married, had a higher incidence of alcohol abuse and exhibited a greater severity of psychiatric disorder. After follow-up the urban group had received significantly more psychiatric contact than the rural group at all levels of the service - they were three times more likely to be admitted to psychiatric hospital, six times more likely to be admitted as day patients and had greater numbers of out-patient attendances. However, the number of GP consultations for psychiatric problems did not differ between the groups and a greater proportion of the rural patients had consultations for non-psychiatric problems. The urban patients also had more contact with other health professionals, including community psychiatric nurses and social workers. The proportion not taking any psychotropic drugs in the 3 year period was higher in the rural (47%) than in the urban (30%) population. In this case, much of the variation appears to be related to "need" as severity was greater in the urban group. It should also be noted that the urban area in this study was among the most socially disadvantaged and the rural the least, which suggests that it is possible that the rural/urban distinction is picking up the link with social deprivation mentioned earlier.

3.2 However, a comparison of the use of psychiatric services in a rural area of Scotland and urban areas of London found higher use of services amongst the rural group which was not accounted for in terms of greater levels of need as the rural group actually had higher levels of functioning than the urban group.³⁰ The authors suggest it may be related to availability of services but although the rural area had greater provision of some services (such as community psychiatric nurses) it had less of other types (such as day hospital places). The explanation favoured by the authors is that greater numbers of patients in the rural areas were in contact with services whilst in the urban areas many were out of contact by the end of the survey year. This in turn may be linked to higher numbers of people in the urban areas who had a history of violence and imprisonment and this suggests they may actually be in greater need than the rural group and receive fewer services.

3.3 Multivariate analysis of MSGP4 shows that compared with their urban counterparts, those living in rural areas were less likely to consult for mental health disorders (30% for females 0-15; 10% for 16-44; 20% for males aged 16-44 and 45-64).⁵

3.4 Survey evidence suggests that the degree of planning and attention given to ensuring adequate provision of mental health services is variable throughout the country, with some health authorities having a full range of accessible services, whilst others fall short.^{16,31} However, no evidence has been found to suggest the variation is systematically related to particular geographical circumstances.

3.5 The number of consultants specialising in psychogeriatrics appears to vary widely, as some districts have no specialists, whereas others have up to nine, and per capita this translates to a variation in population served (amongst those with a consultant in post) from 40,000 elderly people to fewer than 10,000, with the best served district appointing a further consultant very recently, bringing the population served down to 6,500.³²

Explanations:

Supply

3.6 The Seivewright study²⁹ suggests that availability of specialist services may influence utilisation, but the authors argue instead that it is due to the improved *liaison* between psychiatrists and GPs in the urban area, whereas in the rural area the psychiatric hospital did not have good links with the GP psychiatric team. Thus the quality of service may differ, but of course it could be argued that better links have been built as a result of people in higher “need” presenting, so it may be an equitable response. It is difficult to tell without adequate epidemiological data.

3.7 The variation in provision of consultants for the elderly mentally ill may also reflect supply rather than demand factors. It is argued that, as these posts are very demanding, there is an obvious reluctance amongst suitably qualified doctors to set up in areas where no service currently exists as it is more attractive to join a well-established team.³²

(4) Sex

Evidence:

4.1 Commentators have noted the paucity of research concerning service use and needs of female psychiatric patients. Rates of admission to psychiatric hospitals amongst the white population do not show any statistically significant differences between sexes.³³ A study of the type and intensity of services received by the chronically mentally ill in a community focused rehabilitation and continuing care service in London, illustrated that a higher proportion of men could be classified as “high contact” patients in terms of the services received.³⁴ A comparison over time also illustrated that women were less likely than men to move from medium/low contact to high contact categories, which may suggest a less responsive service. Measurement of functioning levels of a subset of high contact patients revealed no differences between males and females, suggesting that the variation in service intensity did not reflect variation in needs.

4.2 Analysis of the recent Morbidity Statistics in General Practice (MSGP) shows that women at every age group consult more than men for disorders classified as “mental disorders”. However, over 85% of all consultations were for non-psychotic disorders such as neurosis and within this category, rates were twice as high amongst women than men.⁵ Other studies support the general finding that women consult more than men for minor psychiatric problems.³⁵

Explanations:

Supply

4.3 As so little work has been undertaken in this area, it is difficult to find explanations although some have focused on the potential inappropriateness of some of the services offered (eg much of the rehabilitation work offered may be seen as traditionally male activities).³⁴

Demand

4.4 The literature which examines the role of health beliefs in help seeking behaviour, tends to suggest that women have a predisposition or attitude which relates to willingness to seek help and divulge personal feelings to others.^{35,36} It is possible that this makes them more likely to seek help for psychiatric problems than men, and indeed the presence of psycho-social problems or distress can predict consultation behaviour in women but not men. Care should be taken in interpreting these results as they do not necessarily mean that there is a high level of unmet need amongst men as men have been found to have fewer psychiatric problems than women.³⁶

(5) Age

Evidence:

5.1 Given the increasing prevalence of mental health problems (especially dementia) with age, most studies control for age whilst examining the impact of other factors on mental health service utilisation. Thus it is difficult to say anything about variations in utilisation which are systematically related to age. The section on ethnicity noted some evidence relating to older black people.

5.2 Central guidance³⁷ on the purchasing and provision of services for older people with mental health problems stresses the need for inter-agency co-operation in dealing with the multiple problems that can occur in this group. Although equity is cited as a priority, no evidence on the current situation is given. Purchasers are encouraged to ensure a full range of services are available to patients and their carers.

SECTION 6

HEALTH PROMOTION AND PREVENTION

SUMMARY OF MAIN ISSUES

* Very little is known about the effectiveness of many health promotion interventions (screening, immunisation and some drug therapies are the main exceptions), which makes it difficult to draw conclusions about the importance of any findings of inequity in access. Although this is an issue for all health care interventions, good evaluations of health education and promotion activities are particularly scarce.

* The majority of studies use area level data rather than individual data which limits the usefulness of the findings and makes the policy implications less clear.

* Much of the observed variation in uptake rates for breast and cervical cancer screening and for immunisation appears to be associated with the lack of accurate age-sex registers which can inflate the population denominator in the calculation of uptake rates. This is a problem for many inner-city areas with mobile populations. This implies that some of the links made between deprived areas (which are often inner-city areas) and low uptake may not indicate a real equity problem as people may receive care in another location. However, if people miss out on immunisations and screening when they move around, then this suggests a problem may exist amongst this specific group of mobile people.

* There is some evidence of lower rates of uptake for breast and cervical cancer screening in areas with high numbers of people from ethnic minorities. However, almost all the differences are accounted for by factors other than ethnicity alone. Immunisation rates appear to be similar to the rest of the population. Low rates in all these health promotion and prevention activities amongst the Chinese population are of more concern but the lack of good research amongst this population makes it difficult to be conclusive. Communication and language difficulties may present some barriers to access of general health promotion activities amongst people from ethnic minorities.

* The weight of evidence suggests that lower rates of uptake for breast and cervical cancer screening, for immunisation and general health promotion activities in primary care appear to be linked to higher levels of deprivation at an area level and to poorer socio-economic circumstances at an individual level, despite high rates of morbidity and mortality in these groups. The problem of getting a good population denominator for accurate calculation of uptake rates has to be borne in mind, but overall the association is strong which suggests inequity does exist. Financial and non-financial costs of access may play some role in deterring people from participating in some of these activities and health beliefs and behaviour also appear to be important influences on the decision to attend for preventive care.

* Most studies focus on lower uptake rates found in urban and inner-city areas compared with rural and suburban areas. However, as the inner-city areas may be

more likely to suffer from list inflation as well as being more deprived, the potential for confounding is great. A small amount of evidence suggests that distance can be a deterrent in attendance for preventive care, even after taking these other factors into account, but there is no evidence to suggest it is a major equity problem.

* There is some evidence to suggest that inequity of access may exist for older women, especially in relation to lower uptake of screening for cervical cancer. However, uptake rates have improved over time and this problem is now less acute. Policy on limited access to breast cancer screening amongst those aged over 50 (screening on request only) reflects a belief that it would be less cost-effective in this group but if this is not the case (as some suggest), equity may be improved through extension of the system.

SECTION 6

HEALTH PROMOTION AND PREVENTION

INTRODUCTION

This topic potentially covers an enormous range of services through primary and secondary prevention, from health education to early detection and prevention. The interventions associated with health promotion and prevention may take a variety of forms, some of which are not as easily measured as others - for example, whilst drug therapies, screening and specific health check-ups are clearly defined, advice given by health professionals during routine visits is not. This means that most research has been directed towards interventions for which utilisation information is easily obtainable. For this reason, (and because it is not possible within the time available to consider all activities in this huge area), this report tends to focus on a few well-defined activities such as screening for cancer.

In common with all types of health care, equity of access to health promotion and prevention is desirable and important only if the interventions are effective. Whilst there is uncertainty about the effectiveness of many health care interventions, those associated with general health promotion activity appear to be particularly poorly evaluated. A recent systematic review¹ examined research on the effectiveness of interventions to reduce morbidity or improve health in the Health of the Nation areas in disadvantaged groups which included many health promotion and prevention activities. It found that much of the research was based in the USA and overall the quality of evaluations was very poor.

Many of the studies on screening use small area data to examine characteristics of the *area* or practice from which patients come, rather than on the characteristics of the individuals and this has the drawbacks described in section 2.

(1) Ethnicity

(a) Screening for Cancer

Evidence:

1.1 There are several difficulties in interpreting research which has investigated the uptake rate of cancer screening amongst ethnic minority groups. First, there is no routine ethnic monitoring for those attending for screening so evidence comes from local studies only. Second, the impact of socio-economic factors on uptake rates has to be taken into account if the role of ethnicity is to be isolated and not all studies control for this factor. The importance of this is highlighted by a number of authors who have reported a high degree of collinearity between the strongest explanatory variables (eg overcrowding, list inflation) and variables measuring ethnicity.^{2,3} Finally, most studies have focused either on the "non-white" population or Asian or "black" groups and not much is known about the screening experiences of other ethnic minority groups.

1.2 In terms of “need”, national data on the incidence of cancer in ethnic groups are limited because registries do not routinely record ethnic origin. Data on standardised mortality rates from cancer suggest that overall mortality from cancer for minority ethnic groups^d is lower amongst those from the Indian sub-continent, Africa and the Caribbean Commonwealth.^{4, 5} Mortality from breast and cervical cancer is low relative to the white population for those born in the Indian sub-continent and African Commonwealth, and although Caribbeans also have low rates of breast cancer, the death rate for cervical cancer is raised.⁴ For breast cancer, rates amongst black and ethnic minority women are around 2-3 times lower than that of the white population.⁴ SMRs for lung cancer and malignant melanoma are also low in these groups, although rates for lung cancer are high amongst the Irish. Higher SMRs are also apparent for prostate cancer amongst Caribbeans, West Africans and Irish males and deaths from liver cancer are high amongst Caribbeans and African males. Oral cancer rates are high amongst Asian migrants.

1.3 In terms of risk factors, it seems that diet and personal characteristics such as smoking, drinking, and sexual behaviour interact with those which may be linked with genetic factors and the picture is further complicated by changes in lifestyle by ethnic groups moving to new countries.⁴ Very low rates of tobacco smoking amongst most ethnic groups have been reported in most national surveys,⁶ although local surveys have found higher rates in some sections of the population. Rates amongst young Afro-Caribbean females and older men appear to be rising to match the UK average.⁷ Tobacco is sometimes added to chewing substances (eg betel nut) used especially amongst Bangladeshis.

1.4 In summary, current data suggest that death rates for many of the most common types of cancer are lower amongst some ethnic groups than in the white population, but for a few cancers rates are higher. Although this may signify a reduced “need” for screening and perhaps also for health education programmes aimed at reducing risk factors, commentators have noted that cancer is still a major cause of death in all populations and indeed, may become an increasing problem amongst ethnic groups in the future as they adopt the lifestyles of the western population.

In general, the results suggest the following:

1.5 Breast cancer screening:

* Anecdotal evidence and crude comparisons suggest low uptake rates amongst Asian women for breast cancer screening. Examination of preventive activities recorded in the case notes of GPs suggested low rates of breast screening for people from ethnic minorities, when standardised for age and sex only.⁸

* Self-reported rates are low amongst Afro-Caribbeans (14%), Indian (7%), Pakistani (7%) and Bangladeshi women (4%) when compared with the self reported rate amongst the UK wide population (21%) (although all these rates are far lower than national statistics confirm).⁷ Self-reported uptake of breast cancer screening

^d These data relate only to migrants and not those born in the UK where patterns of disease may differ

amongst the Chinese population in Scotland is low when compared to figures for Glasgow women (18% versus 66%).⁹ These studies do not standardise for factors other than age and sex.

* Some studies exploring the variation in breast screening rates at a practice level have reported a negative association between uptake rates and the proportion of the practice population from ethnic groups.^{3, 10}

* However, studies which have controlled for socio-economic factors suggest there is *no significant relationship* between breast cancer screening rates and ethnicity when measured at the practice level.^{3, 10} Studies which have used individual level data (largely in terms of intended attendance) appear to support this finding.^{11, 12} In the latter study, postal questionnaires which explored intended attendance rates, showed that being black was actually a positive predictor of attendance.

1.6 Cervical cancer screening:

* Again, broad comparisons have suggested that uptake rates for cervical screening are lower amongst ethnic minorities than for white people.^{8, 13}

* Self-reported rates are low amongst South Asian women: compared to UK wide reported rates of 60%, the rates for Indian, Bangladeshi and Pakistani women were 37%, 32% and 28% respectively, although the rate for Afro-Caribbean women approached the UK average.⁷ Similarly, Chinese women in Glasgow report low rates compared with Glasgow women in general (59% versus 70%).⁹ Low self-reported rates were also reported amongst Chinese women in Hull when compared to white women (69% versus 98% respectively).¹⁴

* Although negative correlations are found between cervical screening rates and practices with higher proportions of ethnic minority residents, this association disappears after other relevant factors have been taken into account.²

Explanations:

1.7 Generally, it appears that lower uptake rates amongst ethnic groups are associated with socio-economic factors (see the following section) rather than with ethnicity independently. Nevertheless, there appears to be a general consensus that there are a number of factors specific to ethnic populations which may affect uptake rates and these are listed below.

Supply

1.8 A lack of information relating to the benefits of screening has been reported in a number of studies of women from ethnic groups. Of those who reported never to have received a cervical smear test, 34% of Bangladeshi women, 15% of Pakistani women and 13% of Indian women said they had never been told about the smear test or recommended to have one, which compares with only 1% of respondents in the UK wide survey.⁷ However, African-Caribbean women seemed better informed

as although a higher than average number reported that they did not feel the need to have the test, a higher proportion of them also responded that they had never been sexually active. This suggests they realise their risk of cervical cancer is relatively low. Lower awareness of cervical and breast cancer screening has been reported amongst the Chinese population when compared with whites.¹⁴

1.9 Non-English speaking women in Leicester have been found to know less about breast cancer screening than their English speaking counterparts. However once the facts were explained, there were no differences in intentions to attend.¹¹ As most of the information and publicity about the service was prepared in English, the authors argue this is evidence of “indirect or institutional” discrimination - although the same service is available to everyone, this factor prevents one group from taking advantage of the service as much as others. They note that although the letter of invitation mentioned that leaflets about the service were available in 5 languages from chemists and other outlets, this was written in English, so the non-English speaking women would not be able to follow this up. Chinese people have also reported language problems related to health education and promotion materials.⁹ However, efforts are being made to make information available to people in a language and format that they understand, but it is clear that proper evaluation of different methods is needed as there is evidence to suggest that some methods have failed to improve uptake rates.¹¹

1.10 Much of the variation in screening uptake rates has been attributed to inaccurate age and sex registers (especially important for breast cancer screening which is by invitation rather than cervical screening which can also be done opportunistically).³ This probably reflects the existence of very mobile populations in some areas of the country which makes it difficult to achieve good rates. Although some studies have failed to find a link with mobility,¹⁵ the limitations of the proxy used for mobility has been acknowledged and list inflation is likely to account for at least some of the variations reported in the literature. It is possible that some women from ethnic minorities are relatively more mobile than other groups and thus more likely to be affected by this. For example, a study in Manchester found that 49% of Asian non-attenders were no longer resident at their given address and that many had in fact returned to India or had only been visiting. This is compounded by the fact that some Asian women may return for extended periods to their homeland for months or years (all quoted in Hoare¹¹).

Demand

1.11 Cultural attitudes may affect uptake for screening, although there appears to be a lack of consensus about this. Whilst some suggest that Asian women tend not to understand the value of receiving care when they are not ill,¹⁶ others contend that there is a strong emphasis on prevention in the health beliefs of South Asia. Compared with the white population in Hull lower proportions of Chinese people rated 5 preventive programmes as a “good idea”.¹⁴

1.12 Compared to figures from the UK-wide survey (36%), lower proportions of Pakistani and Bangladeshi women report having been encouraged by a health professional to have a smear test in the last 12 months (25% and 22%

respectively),⁷ which suggests either they have had less contact with health professionals, they are given different advice by such people, or they interpret advice differently. However, African-Caribbean and Indian women report higher rates, so the picture is not consistent.

(b) Screening for Genetic Disorders

Evidence:

1.13 The incidence of some genetic disorders (particularly haemoglobinopathies) is particularly high amongst some sub-groups of the population. Examples include: thalassaemia (3-17% of people of Mediterranean and Asian people are carriers); sickle cell anaemia (8-25% of people of African or African-Caribbean origin are carriers); Tay-Sachs (3-5% of Ashkenazi Jews are carriers).

* After a slow start, sickle cell and thalassaemia counselling centres have been set up in the UK, mostly in areas of high prevalence, but services are not yet comprehensive.¹⁷

* A recent report which summarised the literature in relation to services for those with haemoglobin disorders pointed to the uneven fall in the thalassaemia birth rate across the country, with affected births being predominantly to Pakistani and Indian families in the north of the country.¹⁷ Similar reports from a variety of groups (eg Standard Medical Advisory Committee and WHO) suggest that these services may be unevenly distributed throughout the country, which may make access difficult for some people (quoted in Modell and Anionwu¹⁷).

* A study of neonatal screening for sickle cell disease in South London found that although African babies were three times less likely to have the "Guthrie" test than other groups, this difference disappeared after adjusting for district of residence (reflecting different methods of checking registers) and mobility of the population in and out of the district.¹⁸ However, the greatest risk of not being tested was amongst the groups whose ethnic origin was "unknown".

Explanations:

Supply

1.14 Those living in areas with a relatively low proportion of residents from ethnic minorities may be at a disadvantage in terms of the availability of screening programmes for genetic disorders, as specialist centres tend to be located in areas of high prevalence. The CRD report¹⁷ noted that whilst many of those at risk live in a limited number of "high prevalence" DHAs (with more than 20% ethnic residents), most of which provide expert services for haemoglobin disorders, about 35% of the groups at risk live in "medium prevalence" DHAs (5-20% ethnic minorities) and over 20% live in "low prevalence" areas (less than 5% ethnic minorities). Services in the latter groups need to be adequate, although universal screening is unlikely to be cost-effective. Suggested minimum levels of service for DHAs of different types are listed in the report, drawing on the SMAC and WHO recommendations for services.

1.15 Low levels of awareness of these disorders amongst health professionals have been reported in some studies which suggest that some people may remain unaware of the need for screening.

Demand

1.16 It has been suggested that genetic screening may be associated with stigmatisation of groups thought to be “tainted” by a particular genetic disorder and a tendency for it to be linked with accusations of eugenic control.

(c) Childhood Immunisation

Evidence:

1.17 The results of a small number of studies focusing on immunisation rates amongst ethnic groups are summarised by Smaje¹⁶ and suggest that most studies have found that the uptake is generally higher among minority ethnic groups, especially South Asian people, than amongst the white population.

1.18 A study undertaken amongst the Punjabi South Asian population in Glasgow suggested that the higher rates were largely accounted for by higher rates of pertussis vaccination.¹⁹

1.19 A comparison of immunisation rates amongst a sample of strictly orthodox Jews in London, found no significant difference in uptake for 3 types of immunisation between this group and the District average.²⁰

Explanations:

Methodological

1.20 Failure to adjust for confounding factors, especially socio-economic status may account for the contradictory findings of the few studies which report lower immunisation rates in ethnic minority groups. Additionally, there is some evidence to suggest that problems related to accuracy of data can account for low immunisation rates in some areas,²¹ which may also influence the results, especially if ethnic groups are more mobile than others. Indeed, the most frequent reason given for non-immunisation in the study reporting low rates amongst Asian children, was that the child was a recent immigrant. Ensuring a good population denominator is used for calculating uptake rates is therefore an important factor in interpreting the results across all dimensions of inequity.

Demand

1.21 Paradoxically, some have argued that a higher rate of uptake for some vaccinations may reflect *problems* with the service. The pertussis vaccine is associated with a range of side-effects and thus it has been suggested that poor information and lack of understanding of this amongst ethnic groups may explain higher uptake.¹⁹

(d) Other services

Evidence:

1.22 South Asian and African populations in the UK are at greater risk of cardiovascular disease (particularly for CHD and stroke respectively) than the white population and a recent review looked at the possible causes and type of interventions that could be used to reduce risks through health promotion and prevention activity.²² They conclude that measures to detect and treat hypertension in primary care have already achieved high coverage in these populations and thus the focus should be on recognising the different efficacy by ethnicity of drug therapy in order to ensure it is controlled. This message is reinforced by a study of patterns of use of anti-hypertensive drugs amongst Afro-Caribbeans and white patients which found adherence levels to be lower amongst the former group whose blood pressure was less well controlled as a result.²³ There is also some evidence²² to suggest that detection and counselling of heavy drinkers is neglected amongst the South Asian population.^e

1.23 A comparison²⁴ of attenders and non-attenders for health checks in one general practice in East London found that non-attenders were significantly more likely to be African than white.

1.24 South Asian women are less likely than African-Caribbeans and UK-wide survey to report having had health promotion discussions with a member of a primary health care team in the last 12 months; although levels for all men are much lower than for women, there are little differences reported between ethnic groups.⁷ Beyond direct advice from the primary health care team (with GPs mentioned far more frequently than practice nurses or health visitors), television and then leaflets obtained from GP surgeries are the most frequently mentioned sources of health information amongst ethnic groups, although Bangladeshi women report low use of all sources.

1.25 A study which examined the role and use of interpreters and linkworkers^f for education and promotion in relation to maternity services in the West Midlands found that although 17 DHAs acknowledged the need for interpreters for non-English speaking Asian women, only 9 provided the service.²⁵ Health professionals in each area felt that as a result of this, non-English speaking women received less information on which to base choice in pregnancy.

^e Issues related to differences in access to cardiology investigations are considered in the section on acute services which covers referrals although there is clearly a preventive angle too.

^f These were developed in some areas following a campaign aimed at improving communication amongst Asian women, but are reported to have had little effect

Explanations:

Supply

1.26 The most commonly cited reason for the apparent lack of use of general health education and promotion services amongst the ethnic population relates to the availability of information in appropriate forms and languages. The Health Education Survey⁷ suggests that in aggregate, written information (which includes newspapers and magazines) is the key information source for each of the ethnic groups surveyed. Amongst middle-aged and older sections of the community, there is a strong preference (especially amongst Pakistanis and Bangladeshis) for material to be provided in their mother-tongue.

1.27 Even where interpreters *are* available, this may be insufficient if care is not taken to ensure the correct language or dialect is spoken and that they are present at scheduled appointments for non-English speaking women.²⁵

Demand

1.28 The study of use of anti-hypertensive drugs found that one reason why adherence was low amongst the Afro-Caribbean group was that they were making use of alternative herbal remedies which were believed to have health promoting properties.²³ Additionally, they tended to suspend use of the drug in case they became addicted or because of a general impression that it must be harmful to take drugs long-term. It is not clear why these beliefs should be common in this group, and not amongst white people.

1.29 A summary of research findings related to the health beliefs and knowledge of people from ethnic groups concluded that most have found a remarkable degree of congruence with western "medical model" of disease and illness.¹⁶ However, there are a few studies (quoted in Smaje¹⁶) which report poor awareness amongst South Asians and some Afro-Caribbeans (when compared with similar groups of white people) of the role of risk factors such as smoking, alcohol and diet.

(2) Socio-Economic Factors

(a) Screening for Cancer

Evidence:

2.1 The same methodological issues relating to the use of small area and practice level characteristics to explain variations in screening uptake apply to this group as to the analysis of ethnicity mentioned in part 1.

2.2 Breast cancer is one of the few cancers to have a higher incidence in the higher socio-economic groups than the lower groups (as measured by Townsend deprivation scores at area levels).²⁶ This position is reversed in the case of cervical cancer.²⁷

2.3 Breast cancer screening:

* Uptake rates have been found to be lower in areas with high levels of deprivation. Associations with variables such as the proportion of households with no car, overcrowding and unemployment have been reported.^{3, 28}

* Multivariate analysis of area level data has found significant independent negative associations between uptake rate and proportion of households with no car, although list inflation (reflecting poor age-sex data which may arise from mobility of local population) is also a strong predictor of uptake rates as mentioned earlier.³

* A study using individual level data in an inner city area of London concluded that the only significant socio-economic variable was housing tenure, with women living in rented accommodation having lower attendance rates than owner-occupiers. However this association disappeared in the multivariate analysis and factors related to health beliefs and behaviour were more powerful predictors (see explanations section for details).¹² There was also no evidence in this study that those who attend were better educated or from a higher social class. Atri's study⁸ also used individual level data to look at receipt of preventive care but because it was focused on ethnicity, it reports lower breast screening amongst ethnic groups than white. However, as it notes that those in minority ethnic groups were significantly worse off than whites in terms of car ownership, overcrowding, unemployment and proportion in social class IV and V, the results are indicative of a negative relationship between deprivation and receipt of care.

* Sutton et al¹² also summarise the results of older studies and note that whilst three studies undertaken in Edinburgh found a negative association with socio-economic status based either on occupational status or small area statistics, two others did not. Educational status was also not found to be associated with attendance. The author suggests that receiving an invitation through the post may reduce the social class differential in comparison with services which require an unprompted response.

2.4 Cervical screening:

* Again, lower uptake rates have been found in areas of high deprivation. Variables at area level correlated with low rates include overcrowding, Jarman UPA 8 score for practices² and Townsend material deprivation score.¹⁵ Older studies also have produced similar results.^{29, 30} The multivariate analysis undertaken by Majeed et al² suggested that every 2.58% increase (one standard deviation) in the proportion of the practice population living in overcrowded conditions reduces uptake rates by 7.5%.² However, there is some evidence that the social class gradient in screening is declining over time.^{15, 31}

* Poor data in age-sex registers is again found to be associated with low uptake rates and is reflected in the significant association with the proportion of people with a change of address in a practice.² Although population change indices were not associated with uptake rates in one study,¹⁵ this variable is a poor proxy for

mobility as outflows may be matched by inflows but contact with individuals moving in and out of the area would still be difficult.

Explanations:

2.5 If “need” is measured in terms of incidence, then the findings in relation to breast cancer screening and socio-economic group should perhaps be less of a cause for concern than those for cervical cancer, as the incidence of the former is more common amongst the higher social classes who appear to be good attenders. However, as breast cancer is one of the leading causes of death for women, there are likely to be benefits gained from tackling inequities in access to both types of cancer.

Supply

2.6 Efforts have been made to improve the cervical screening system in order to reach those most at risk, which includes those in lower social classes. The introduction of target payments for GPs in 1990 and computerised call and re-call systems may have been responsible for some of the improvements seen over time.

Demand

2.7 It is possible that those from lower socio-economic groups face financial costs of attending which, although not sufficient to dissuade them from accessing health services when they are ill, act as a barrier for attending “optional” services related to health promotion and prevention. This can occur even if the money price of care is zero as travel costs and time costs may still be incurred. Time costs may vary with socio-economic factors and the private opportunity cost of time may be higher for those in manual groups because if they are not in paid employment they will not have an employer to subsidise their attendance time. Even if they are employed, they may be in the type of job where they are less likely to receive subsidies from employers.³² Women from lower socio-economic groups attending for breast screening have been found to be more likely to travel by public transport, face a longer journey, be accompanied by a companion and forgo pay or annual leave for time taken off work than those in higher social classes, all of which adds to their access costs.³³ In a study of attendance for osteoporosis screening,³⁴ those in manual socio-economic groups were indeed more likely not to be in paid employment and more likely to travel by public transport (which probably takes longer than using a car) and the authors conclude that women in manual groups face higher time costs of access which may help to explain their low attendance for osteoporosis and other preventive services.

2.8 It has been suggested that the practice of preventive behaviours in general can predict attendance for breast cancer screening.¹² If these behaviours are strongly associated with socio-economic status, this may explain some of the association. A review of evidence relating to health related behaviour within socio-demographic groups, suggests that whilst smoking is more common amongst manual groups, other behaviours do not exhibit such straightforward associations.³⁵ Drinking more than the sensible level is higher amongst non-manual women but amongst men it

was those in the employers and managers group as well as the unskilled whose alcohol consumption was higher. Similarly, although those in social classes IV and V eat less fruit and vegetables, the percentage of food energy provided by fat or saturates did not differ between groups.

2.9 Although cervical and breast cancer uptake rates are highly correlated at a practice level,³ this does not necessarily confirm that the same individuals from the practices attend for both. However, this was suggested by Sutton's study,¹² as those attending for breast screening were more likely to have had cervical screening and make regular visits to the dentist for check-ups. Although simple measures such as exercise, smoking and dietary change were not associated with attendance, the author argues that dental check-ups and cervical smears are more similar to the behaviour required to attend for breast cancer screening as they all relate to monitoring health or detecting illness, rather than to health maintenance in general. Similarly, in studies of health checks at GP surgeries, non-attenders have been found to be less likely to have had cervical screening or breast screening.^{24, 36}

2.10 In terms of health beliefs, the two best predictors of uptake in an interview study were intentions to attend and perceived importance of breast and cervical screening.¹² If belief in the importance of screening varies systematically with socio-economic group then this might explain some of the findings. The author notes that although this may seem a trivial finding, it supports the notion that going or not going for a screen is a decision that can be seen as potentially susceptible to influence by the provision of information.

(b) Childhood Immunisation

Evidence:

2.11 Lower rates of immunisation are frequently reported in areas with high levels of socio-economic deprivation. In Liverpool, higher scores on an "overall index of deprivation" were associated with lower completion rates for all vaccinations except MMR, and this reflected low consent in these groups rather than low attendance following consent;^{37, 38} those living with a lone parent were also less likely to be vaccinated (40% less likely); older studies also report these associations with area deprivation scores and socio-demographic variables (six studies are quoted in Pearson et al³⁷).

2.12 Family size has also been shown to be related to uptake with greater numbers of children reducing the likelihood of uptake in subsequent children.^{37, 39} It is not clear if this is a reflection of socio-economic differentials as it has been noted that family size is highly correlated with class and deprivation.³⁹

2.13 Attendance at child health clinics was not found to be significantly related to deprivation as those in higher classes were found to attend less than others and families perceived as vulnerable (living in council accommodation, very young mothers) were frequent attenders.⁴⁰ However, as this study did not disaggregate between the type of clinic and did not undertake any multivariate analysis, it is wise not to give it too much weight.

Explanations:

Supply

2.14 Inaccurate information on immunisation is associated with low uptake rates at area level²¹ which suggests that population mobility in deprived areas may be partly responsible for low uptake rates. In another study, those who had moved into the area since birth were 40% less likely to have been vaccinated than residents.³⁷

Demand

2.15 Lower completion rates for courses of vaccination amongst children with older siblings and those living with a lone parent may reflect barriers to attending clinics. Although direct evidence for this is not available, the low rates of completion *after* consent had been given suggests that intervening factors prevented actual attendance at clinics.³⁷ This may be because parents of large families find it difficult to fit visits into a busy schedule and because lone parents may well have no use of a car. Alternatively, it has been suggested that lower attendance rates may reflect a change in attitudes as the family expands. For example, if parents have had a bad experience with side effects in older children, they may decide not to have the younger children vaccinated. Similarly, having a minor illness which prevents attendance may also be more likely amongst those with larger families as colds may be caught more easily.³⁹

2.16 The issues in relation to financial and non-financial costs of attending and attitudes and beliefs have already been considered above in relation to cancer screening.

(c) Other services

Evidence:

2.17 Attendance for health checks in general practice appears to display a social class gradient with those from higher social classes and who are better educated (and likely to be in better health) attending more than those from lower social groups or deprived areas. For example, a study in East London²⁴ found that non-attenders were significantly more likely to be in social groups IV and V (only 16% of them attended compared with 40% of those in I and II) and more likely to be unemployed. In Oxfordshire, those attending for health checks in relation to cardiovascular disease were more likely to be in higher social classes (gradient of 16-38%), although the authors note⁴¹ that this gradient was less noticeable than in older studies of health checks.

2.18 The 4th National Morbidity survey of General Practice⁴² showed that those in manual social classes were 10% less likely to consult their GP for preventive care than those in non-manual groups.

2.19 As those from less deprived groups are likely to experience better health this pattern of attendance for health checks suggests an “inverse care law” is at work as

those in least need receive more preventive care. This is supported by studies which find that non-attenders are more likely to be smokers or heavy smokers.^{24, 41} However, the importance of such findings are likely to vary according to the disease group - in a study of attendance for screening for osteoporosis,⁴³ although a greater proportion of non-attenders came from manual social groups (48% from IV and V) than non-manual (10% from I and II), the non-attenders also appeared to be at lower risk from the disease as they exhibited fewer risk factors.

Explanations:

Demand

2.20 Factors relating to health beliefs and behaviours and the impact of financial and non-financial costs on attendance for preventive care which have been described earlier also apply in the context of these services. An additional factor relating to attendance for general health checks relates to motivation to stop engaging in unhealthy behaviours. Smokers who reported that they were highly motivated to stop were more likely to attend the clinics, even though overall, those who were non-smokers were more likely to attend.⁴¹ This did not apply for drinking or dietary change. Similar levels of motivation to alter lifestyles were found between attenders and non-attenders in another study.²⁴

(3) Geography

Evidence:

3.1 Lower uptake rates of breast cancer screening,⁴⁴ cervical screening³¹ and immunisation are observed in inner city and urban areas when compared with rural and suburban areas, especially in the Thames regions.^{27, 35} Other research has tended to confirm this,^{39, 45} reporting that the chance of not being immunised with a third dose of pertussis was 3 times greater amongst children in the inner city area than the rural and suburban areas; whilst others report use of child health clinics to be lower in suburban areas than in inner-cities.⁴⁰

3.2 Uptake rates which decline as distance to service increase, have been reported in a few studies. In a study of a mobile breast screening service, even after controlling for other factors, distance was still an important predictor of use of the service and was also related to the cost to the women of attending the service.²⁸ For every 10% increase in distance, a 2.4% reduction in attendance was predicted. Similarly, an index of "rural remoteness" based on distance and proximity to bus routes was found to be a significant predictor of low attendance for breast cancer screening before a new system of call and re-call was introduced in a rural area.¹⁵

Explanations:

Supply

3.3 The tendency for low rates of uptake for screening and immunisation to be found in inner-city areas may partly be explained by the association between inner-cities and indicators of deprivation (considered earlier).

3.4 The problem of obtaining a valid population denominator to calculate uptake rates is relevant again as the population may be more mobile in inner-cities which makes record keeping difficult. The earlier discussions suggested that list inflation is a strong predictor of variations in screening rates reported at practice level for breast and cervical cancer screening. For example, many of those who were thought not to have been immunised in an inner city health district were found to have either moved away or had in fact been immunised.²¹ Once this had been taken into account, uptake rates improved from 73% to 92%.

3.5 If data inaccuracies mean that more people are actually receiving preventive care in these areas than routine figures suggest, this is not such a cause for concern. However, if those who move away are less likely to receive the care in their new place of residence, this is a more serious problem. Change of address has been found to be a significant predictor of low uptake rates for screening^{2, 18} and immunisation.³⁷

Demand

3.6 Whilst those experiencing illness may not be deterred by distance from using a service, attendance for preventive care which is perhaps seen as less important or pressing may be influenced by distance and travel time. Distance and rurality are inter-related although particular groups, such as the elderly or the disadvantaged who may rely on public transport are likely to be more affected than others.⁴⁶

(4) Sex

Evidence:

4.1 There does not appear to be a great deal of research which examines differential access to health promotion and prevention services between men and women.⁹ Most of the research on attendance for health checks at general practice suggest that attenders are more likely to be women.^{36, 41} Most studies tend to control for age and sex in order to examine the role of other factors.

⁸ Sex differentials in diagnostic interventions in cardiology are considered in the paper on acute services

Explanations:

Demand

4.2. More women than men engage in health conscious dietary behaviour and from age 24 onwards, women are slightly less likely than men to be totally sedentary. More men than women smoke, although smoking is more prevalent amongst girls than boys under the age of 16.³⁵ Thus it is possible that women attach more importance to prevention and health promotion activities than men which may encourage them to use preventive services. Women are also more used to seeking medical opinion when they are not ill (through participation in breast and cervical screening programmes and maternity care), so they may feel more at ease with general health promotion activities than men.

(5) Age

Evidence:

5.1 The incidence of cervical cancer increases with age. For a number of years, the coverage of the cervical screening programme was uneven and the lowest uptake was observed in the age groups most at risk. However, this has improved following introduction of better call and re-call systems and target payments for GPs. For example, uptake in age groups 55-59 and 60-64 improved between 1988/89 and 1992/93 from 37% and 25% to 84.3% and 81.3% respectively.²⁷ Non-response has been associated with older women²⁹ and areas with a younger age structure,¹⁵ although the latter did not persist after a new re-call system was set up. Uptake rates appear to be negatively associated with the proportion of females aged 35-44 in the area, but positively associated with the proportion of the population under 5 years of age.²

5.2 Breast cancer is also more common amongst older women but, at present,^h evidence suggests that screening is most effective in reducing mortality amongst those aged over 50. Although women over 64 may be screened on request, they are not yet included in routine invitations due to indications of poor compliance which is thought to reduce the cost-effectiveness of the programme. Uptake is lower amongst the older groups where risk is higher, especially for invitations for first screen. Acceptance rates in 1994/5 were 77.4%, 70% and 66.3% for age groups 50-54, 55-59 and 60-64 respectively.⁴⁴

5.3 The burden of cardiovascular diseases is greatest amongst older people, but some have suggested that this group fails to get access to the full range of health promotion and preventive interventions, despite the fact that some of these activities would be effective in this group.⁴⁷ Although the authors do not present evidence on access to health promotion for this group, they do find that many clinical trials of relevant interventions exclude those aged over 55 years. They conclude that health promotion activities should target those most at risk and the elderly should not be

^h Pilots are in place for screening for those aged 40-49 where the evidence has not been quite as convincing to date. Pilots are also underway to look at the implications of extending the programme to those aged 65-69.

excluded from these where there is evidence (which the authors present) that particular strategies are effective in this group.

Explanations:

Supply

5.4 A recent report⁴⁸ questioned whether the exclusion of older women from routine breast screening on the grounds of poor compliance was equitable. They note that compliance and non-attendance at reserved screening slots are different - if a system is used whereby those invited have to confirm attendance, then low compliance amongst older women will not "waste" slots as they will be re-allocated to others. Coupled with the fact that death rates from cancer are high in this group, this suggests that benefits could be gained without incurring substantial costs, thus not inviting older women to attend routinely can be seen as inequitable.

5.5 A belief amongst health professionals that the elderly cannot benefit from health promotion interventions, reinforced by the lack of trial data for this group, may account for the alleged lack of interest in preventing cardiovascular diseases in the elderly.⁴⁷

Demand

5.6 As cervical screening may be carried out opportunistically it may be that groups of women who have little contact with their GP are less likely to be screened (or to be advised accordingly). This is borne out in part by the study by Majeed² reported above as women with children under 5 would have had contact with their GP for maternity care, whilst those aged 35-44 without children may have less contact.

5.7 Despite the high incidence of breast cancer in women aged over 65, a recent survey by Age Concern indicated that most did not know they were at risk and also did not know they could attend for screening on request (quoted in CRC⁴⁴). Lack of information may therefore be responsible for low interest amongst the elderly and other studies have suggested that older women have poorer knowledge and a less positive attitude to breast screening and self-examination (quoted in Ashby et al³³).

SECTION 7

LONG TERM HEALTH CARE

SUMMARY OF MAIN ISSUES

* The examination of equity amongst those in need of long term health care offers a serious challenge from both a methodological and empirical perspective, principally because of the wide range of complementary and substitute services outside the NHS which are relevant to long term care. We present a theoretical discussion which seeks to model, in a very simplified way, the nature of the interface between social care and long term health care.

* Perhaps because of the complexity of the subject area, there is precious little relevant empirical research to which we can refer. The work we have been able to find suggests that there are large geographical variations in provision of long term health care resources.

* A small body of research has examined equity in personal social services, and has found that – although resources are increasingly being targeted at high needs groups within local authorities – there is considerable (legitimate) variation between local authorities in how needs are met.

* This lack of evidence should not obscure the fact that there appears to be prima facie evidence of substantial inequity in access to long term health care. Specifically, substantial variations in the social care offered by local authorities appears to be giving rise to serious geographical variations in utilisation, and potentially large associated inequities.

SECTION 7

LONG TERM HEALTH CARE

The examination of equity amongst those in need of long term health care offers a serious challenge from both a methodological and empirical perspective. Perhaps the most important issue is the wide range of complementary and substitute services outside the NHS which are relevant to long term care. This implies that, to be meaningful, any study of NHS equity in these services should take full account of the social circumstances as well as the health care needs of the individual, substantially increasing the complexity of the research task. It is therefore not surprising to find that there is precious little relevant empirical research to which we can refer. In this section we therefore concentrate on broad consideration of the issues involved. A brief concluding section examines some existing empirical work.

(1) General Considerations

1.1 Long term health care can in some circumstances involve 24 hour health care cover by a single provider. However, as the NHS reduces its provision of long stay beds, long term health care is increasingly likely to involve a package of services delivered by a variety of providers, with the client continuing to live at home. There are four main areas of health care that can be considered under the heading of long term care:

- long term mental illness;
- learning disabilities;
- severe physical disability amongst younger people;
- health problems associated with ageing.

1.2 These areas share many of the same characteristics, and to some extent overlapping clienteles. Therefore we consider them together. While the broad methodological principles set out in section 2 remain valid, the problems raised there become particularly important when studying equity in the provision of long term care. Some of the more important considerations are as follows:

(2) Demand factors

2.1 There is a difficulty in disentangling the health care needs from the social care needs of clients. Indeed many commentators claim it is meaningless to examine health care needs in isolation from the social circumstances of clients and their carers. This issue has of course been brought into sharp relief by the attempt to make public sector social care the responsibility of local authorities, under the community care initiative. There may be substantial (perfectly legitimate) variations between local authorities in eligibility criteria and charging policies in respect of community care, which may in turn give rise to major variations in NHS utilisation for equal health care needs. The most obvious impact of such variations arises in the form of patients who "block" acute NHS beds, suggesting inappropriately high NHS utilisation for certain population groups in the affected areas.

2.2 In the same way, the nature of the local voluntary sector - for example in the form of charities and churches - might vary substantially, again leading to large variations in NHS utilisation. Variations in the voluntary sector may manifest themselves in a number of ways, such as the provision of domiciliary care, day centres and residential accommodation.

2.3 There are numerous personal circumstances that may lead to enormous variations in the NHS care sought by individuals with apparently identical health status, such as:

- the domestic circumstances of the individual, in particular whether they are resident in an institution or a private household;
- the physical environment of the individual, for example in the form of housing and access to transport;
- the nature and circumstances of any carer for an individual living in a private household;
- the wealth available to the individual and relatives, and their ability and willingness to pay for private health and social care
- the individual's eligibility for a range of social security benefits.

2.4 There is some evidence to suggest that individuals living in residential accommodation or in receipt of other community care receive more health care than their counterparts who are not in receipt of social care.¹ This raises the issue of whether such variations arise because individuals in households have better health, whether institutional or community care is worse than household care at meeting health care needs, or whether institutional carers are good advocates at securing health care for those in need.

2.5 Persons in need of long term health and social care may have to undergo a variety of means tests. The process of means testing and the associated criteria may distort the behaviour of affected individuals in a variety of ways. At the same time, in some areas there may still be a large number of individuals in residential care with "protected rights" to residential care pre-dating the introduction of community care.

(3) Supply factors

3.1 Provision of health care for those with long term needs often requires the co-ordination of a package of care delivered from a variety of sources, such as hospital services, community services and GP services. It is very likely that local institutional factors have a substantial impact on the health care received by patients. Considerations include:

- Co-ordination between NHS trusts;
- Relations between NHS and local authority purchasers;

- Relations between GPs and NHS trusts;
- Relations between GPs and local authorities;
- Relations between GPs and community care providers;
- Lack of correspondence between local authority and health authority boundaries;
- The role of GP fundholders.

3.2 There are a variety of modes in which a given level of care can be delivered to an individual. The starkest example of this is the choice between residential and domiciliary care, which might be finely balanced for some individuals.

(4) Methodological issues

4.1 In the light of the variations discussed above, the optimal package of health care for any individual with a given set of needs may vary from area to area. Examination of just one of the services may therefore give a misleading impression of utilisation and access. In principle, it becomes necessary in some way to examine the entire package of long term health and social care received by an individual.

4.2 The needs of an individual in long term receipt of health and social care may change over time. Therefore a package designed at some point in time may become inappropriate as such changes occur. Yet it is often difficult to secure the change in care suggested by changed circumstances. In short, inertia in the system may mean that the health and social care currently received by an individual is inappropriate to their current needs.

4.3 Many clients live in institutions. This gives rise to a number of methodological difficulties, not least the fact that they are not represented in the General Household Survey and other household surveys that may be of relevance when examining equity.

(5) A simple model of the health care/social care interface

5.1 These considerations do not necessarily invalidate the general model of access to health care set out in section 2. However, they do indicate that some of the complications discussed in that section are likely to be particularly severe in the long term sector. In principle, any study of equity in the long term sector should be seeking to identify whether individuals in identical domestic circumstances, with identical wealth, facing the same local authority policies and enjoying identical local availability of voluntary sector services receive the same health care. In practice, such a counsel of perfection is almost certainly unattainable. However, these considerations do imply that a successful study of equity amongst people with long term needs should focus on the total package of care available to the individuals concerned, and that any study just focusing on a single health service is unlikely to yield useful results.

5.2 In order to illustrate the interaction between health and social services, consider the following simple model of the link between health and social care. An individual

presents with given health and social care needs (however defined). We assume that there is a local health care sector (the NHS) operating with a fixed budget \underline{H} and a social care sector (the local authority) with a fixed budget \underline{S} . (For the moment we ignore complications such as private income and non-public sector care.) The NHS wishes to allocate its fixed budget between competing clients so as to maximise some concept of outcome. A given mix of health care expenditure H_i and social care expenditure S_i gives rise to a total care package for individual i with benefits to the individual of value $Q_i = Q(H_i, S_i)$, which we term "quality" for short. [We assume that $Q_H > 0$, $Q_S > 0$, $Q_{HH} < 0$, $Q_{SS} < 0$.]

5.3 Let us first consider the health care purchaser. We assume that this purchaser allocates funds so as to maximise quality of care, subject to the budget constraint. This means that the net value to the health authority of securing quality Q_i for the individual can be represented by $U_H(Q_i, H_i)$ [where $U_{H_Q} > 0$, $U_{H_H} < 0$, $U_{H_{QQ}} < 0$, $U_{H_{HH}} < 0$]. The variable Q is included in the utility function U_H to represent the "quality" secured by the purchaser for this individual. The role of H in the utility function is to indicate the opportunity cost to the purchaser of spending its limited budget on this individual rather than some other person in need. By substituting $Q = Q(H, S)$ into the expression for U_H , we can derive the "indirect" value to the health care purchaser V_H of a given package for individual i $V_H(H_i, S_i)$. Thus, for a given level of social care S_1 , the health care purchaser will allocate a level of health care expenditure H_1 which is optimal with respect to its total budget constraint.

5.4 Note that, other things being equal, the health purchaser will always prefer higher social care expenditure. However in general the response of V_H to increases in health care spending H is likely to be ambiguous. In one sense, because increased H yields increased quality, it leads to an increase in V_H . However, increased H also leads to an increased opportunity cost, leading to a concomitant reduction in V_H .

5.5 In the same way, the indirect value to the community care purchaser of securing quality Q for the same individual can be represented by $V_S(H_i, S_i)$, where social care expenditure S_1 is chosen in the light of given health care expenditure H_1 . On the social care side, user charges may affect the nature of the budget constraint. More generally, in distinction to the health service side, on which each authority is in principle seeking to deliver a standard level of care, different local authorities may legitimately offer different levels of care depending on local decisions about the size of the community care budget, user charging policy, care policy and eligibility criteria. Thus the shape of their utility function V_S may vary substantially from area to area.

5.6 Indifference curves for health purchaser (h_1, h_2, h_3) and social care purchaser (s_1, s_2, s_3) are shown in Figure 3. The "contract curve" for the two purchasers, along which any negotiated package for the individual will lie, is given by CC . (We assume that both purchasers will deliver their care efficiently.) The two purchasers will always organise a package of care along the contract curve, which indicates feasible packages of care subject to public sector budget constraints. Precisely where they agree to settle will depend on their bargaining positions. However the purchasers' task should in principle be to maximise the individual's total quality of care along the curve. Recall that "quality" is a function of H and S , so that "iso-quality" curves of the

sort indicated by the dotted curve in the diagram exist. In this example, such a point is shown at P^* , yielding a quality Q^* with health care expenditure H^* and social care expenditure S^* .

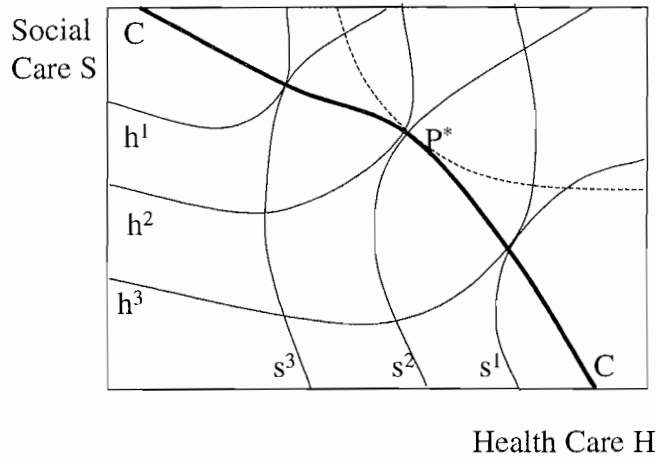


Figure 3: Contract curve for health and social care

5.7 This sketchy model requires further development, and is highly dependent on some restrictive underlying assumptions, the validity of which may be open to challenge. In particular, it may be the case that there are multiple solutions, or indeed no optimal solution at all to the problem. However the model has a number of features worth noting. First, the level of care delivered results from a bargaining process between health and social services along CC , and is not necessarily optimal in terms of the quality of care it secures. Second, the shape of the contract curve is dependent on the budgetary pressures operating on both health and social services. Third, the optimal point P^* is not necessarily the cost minimising point for securing the chosen quality of care. This point may not lie on the contract curve.

5.8 The purpose of this model is to demonstrate why substantial variations in the package of care delivered might arise on the supply side. In practice, of course, the process of determining a package of care is much more complex than this schematic example suggests. In particular, on the health service side, there may be both health authority and GP fundholder purchasers. On the social services side there is the issue of client charges. Budget constraints are therefore rarely as clear cut as assumed here. On the demand side, the preferences and social circumstances of the individual should in principle be incorporated. Other agencies often enter into the picture also. Given this complexity, it is hardly surprising to find a very small research effort relevant to our task.

(6) Empirical evidence

6.1 This section briefly notes some of the empirical studies identified in this review that have some relevance to long term health care, and discusses the issues they raise. We should note that many articles on long term care raise the issue of inequity, and what follows is merely a selection of such studies. The structure of the discussion is constrained by the subject matter of the studies and the authors' focus of attention.

6.2 While not the immediate topic of this report, the above discussion suggests that any variations in access to personal social services are likely to be an important determinant in variations in use of NHS long term care. Almost all studies that address the issue of access to personal social services, in particular community care, have noted apparently very wide variations in the quantity and quality of care offered. Such variations exist both between and within local authorities. Bebbington and Davies¹ are typical in noting a number of inequalities in use of services, even after a crude adjustment for need, such as:

- the disabled in shire areas are roughly twice as likely as those in urban areas to receive services;
- elderly people (over 80) are 2.5 times as likely to receive services than their younger counterparts;
- those visited by a community nurse are three times as likely to get services as those who are not (suggesting a degree of complementarity between health and social services).

6.3 McLeod² focuses on the role of unequal information about social services in giving rise to inequalities, demonstrating that a pilot project could increase awareness of the existence of hospital social workers from 40% to 64% amongst older NHS patients, leading to dramatic increases in take-up of community care services. The long run impact on demand for NHS services may of course be substantial, but is not pursued in the paper.

6.4 Challis and Henwood³ consider five groups of community care users:

- the "relatively poor", subject to a care test and a means test;
- the "relatively affluent" who can afford to pay for their own care at the level of publicly provided care;
- the "affluent" who can afford to purchase their own care at a level significantly above that of publicly provided care;
- people with "preserved rights" for residential care (who were in care receiving income support on 31st March 1993);
- people with substantial social security benefits.

From the perspective of this review, the main feature of this list is the very different demand characteristics the various groups are likely to exhibit, given the incentives facing them. The importance of these issues and the lack of a homogenous client population will make any empirical investigation of community care exceedingly complex. This implies a complex "knock-on" effect for related health services.

6.5 In a study of 1,415 elderly people, Bowling *et al*⁴ find that household size is a strong predictor of social service use (particularly home help and meals on wheels). This corroborates the importance of the “living alone” variable noted as an important predictor of utilisation by Bebbington and Davies¹. Functional status was the strongest predictor of use of district nursing services. Marital status was found to be a poor predictor of utilisation of either health or social services. The authors claim that, although these “common sense” variables explain some variation in use amongst elderly people, there remains a great deal of unexplained variation.

6.6 Phillips⁵ investigates sources of domiciliary care amongst 1,298 low income, severely disabled people. On average, health services provided 1.7 hours of care a week and social services 1.9 hours care a week, while private and voluntary carers provided 3.3 hours. Informal care represented a much larger input, averaging 64 hours a week. Indeed over half the sample received no formal services of any sort, and were entirely dependent on informal care. The amount of formal care received appeared to be independent of any measures of need. He concludes that services are not being allocated according to need, and that there exists substantial amounts of unmet need in the community, but does not identify any particularly adversely affected groups.

6.7 Robinson and Stalker⁶ investigate respite care for 586 disabled children. Again, they find uneven access to services, with people in low socio-economic groups and ethnic minority groups apparently adversely affected. They indicate three potential reasons for low use amongst black and Asian groups: a lack of information for ethnic minorities; a lack of black and Asian carers; and concerns that the care received may be unsuitable. But the authors point to the complication that disabled children in low socio-economic groups and black groups are more likely to be in residential care than children from the general population, so such groups may in any case offer a smaller than expected population of potential clients. This indicates the difficulties encountered when seeking to interpret the results of such studies. The existence of informational difficulties and concerns about inappropriate services amongst ethnic minorities are to some extent confirmed by McFarland *et al*⁷ in a study of the Asian people in Glasgow. In contrast, Bowling *et al*⁸ report a higher than average predisposition to report illness and use services amongst elderly Jewish respondents.

6.8 Edwards and Raftery⁹ develop the methodology used in Jarman's analysis of hospital beds in London, which suggested that London had a smaller proportion of beds for the elderly than comparable areas. Edwards and Raftery's analysis used HES data and adjusted for cross boundary flows in order to look at beds used by resident population. In broad terms they confirm that inner London used more beds (4% more) per 1000 population than national average; outer London used 4% less (-4%). Other cities, notably Leeds (+83%), varied far more from national averages. The most significant element of high rates of bed use in London appeared to be in the elderly group and despite a lower proportion of elderly in London, they make disproportionately heavy use of hospital beds. They speculate that this may be the result of larger numbers living alone or the level of non-NHS care for elderly in the city. (Jarman had pointed out low provision of residential care in London.) In this respect, Edwards and Raftery looked at the availability of nursing homes, including

the local authority, voluntary and private sector. While the England average was 36.25 places per 1000 population, the figure for inner London was 24.99 and for outer London 25.93. There is clearly scope for more refined analysis along these lines.

6.9 Thus, the evidence in this sector is sparse and inconclusive. However, there is some evidence that resources are allocated according to some systematic concept of need in the social care sector.¹⁰ Moreover, the community care initiative appears to be resulting in a sharper focus on targeting resources at the most dependent group.¹¹ Therefore, we might expect that – within a local authority – the problem of inequity in social care may be being addressed. Ongoing research at the Personal Social Services Research Unit is likely to yield valuable results in this respect. However, there remains considerable (legitimate) scope for variations in policies, funding levels and eligibility criteria between local authorities. NHS providers may serve patients from a variety of local authorities, and so may find themselves offering very different levels of care to identical patients from neighbouring local authorities.

6.10 In the short time available for this study, we were not able to identify any studies which successfully grappled with the methodological difficulties inherent to the long term care sector. However, the small research effort in long term care should not obscure the fact that there appears to be substantial inequity in access to such care, particularly in relation to the geographical variations in access. A string of reports, for example from the Audit Commission,^{11,12} the House of Commons Health Committee¹³ and the Health Advisory Service,¹⁴ has noted *prima facie* evidence of enormous variations in access, and Age Concern¹⁵ is typical in describing the current situation as a lottery. Therefore, although no usable empirical evidence has been found, it seems very likely that the long term care sector exhibits some of the biggest inequities in UK health care.

SECTION 8

IMPLICATIONS AND FUTURE DIRECTIONS

The implications of our findings depend on two factors. The *relative importance* of the inequities identified and the nature of the *causes* of these inequities.

There is no straightforward way of classifying inequities in terms of their importance and potentially this could depend on a number of different factors, including:

- * size of the differences in utilisation
- * size of the group affected
- * existence of multiple inequities in one group
- * impact on health status

Where the magnitude of the variation in utilisation has been identified by authors, this has been reported, but how is this to be used when comparing different groups or different services, especially when data from both the area and individual level have to be compared? For example, people from lower social classes are 10% less likely to attend for GP consultations for preventive care, but is this more or less important than the finding that, in deprived areas, the revascularisation rate for those with angina symptoms is 50% lower than the rate in affluent areas? Numerous factors would influence this judgement and most of the information which is required to inform such a judgement is not available (for example, what impact does each of these have on survival and quality of life?). It may be possible to draw inferences when information is available: for example, mortality from heart disease is higher amongst lower socio-economic groups and surgical revascularisation is known to be an effective treatment so inequities in access are likely to be important as they will have a measurable impact on health status. However, this sort of information is not available for most types of treatment.

Similarly, it is not clear how each of these factors should be traded-off against each other. For example, the evidence suggests that people of Chinese origin receive far less care than other groups, reporting low use of almost every service with utilisation rates of less than a quarter of those found in other groups. The fact that the differences are large and that they exist across a wide range of services suggest this is a serious inequity. However, they are a relatively small proportion of the population in the UK, so how is this inequity balanced against, say, a smaller inequity suffered by a larger population?

The implications for expenditure are also likely to depend on the factors listed above as well as a more fundamental issue of whether it is valid to assume that differences in utilisation rates reflect differences in health care expenditure. It is unlikely that all health care episodes represent an equivalent claim on health care resources. For example, length of stay may vary systematically between groups or GP consultations may be briefer or less likely to be accompanied by a prescription for some groups. A small amount of research evidence referred to in the report supports these hypotheses. The fact that individuals within poor populations using a particular

service have been found to be sicker than those in richer groups using the same service, adds further support to this argument.

The identification of causes of inequity indicates the potential for policy intervention of particular kinds. However, for most of the topics covered in this report, the evidence on causes of inequity is not sufficient to point the policy-maker in a single direction. This problem of interpretation is related both to the likelihood that the causes of inequities are complex and multifaceted and also to the nature of the research in this area. Investigation of causes of inequity of access usually requires fairly in-depth interview studies which tend to be expensive and thus are normally undertaken on a small scale. Whilst such a study may provide good quality information on one potential cause, it does not mean that this is the most important cause or that this is where effort should be directed, as another equally valid study may address a different potential cause with different implications for policy.

Nevertheless, an attempt has been made in this report to clarify whether causes are related to supply or to demand. Such a distinction may act as a guide to decision-makers because, broadly speaking, the former tend to be factors over which policy-makers in the health care sector may have some direct control, whilst the latter are related more to patient preferences and characteristics, which potentially can perhaps be influenced through policy, but may be beyond direct policy control.

Future Directions

Clearly there are serious gaps in the current state of knowledge about the existence and causes of inequities in access to health care services. Whilst we have highlighted the areas in which the better quality studies suggest inequities exist, we have also stressed that due to the methodological difficulties associated with this topic, research effort has been directed at particular topics where data are relatively easy to obtain. Research on inequity of access in some sectors and for some client groups is therefore sparse. It is important that future research focuses on areas previously neglected despite the methodological problems to be overcome.

Much research into equity focuses on the use of particular services. Yet for many patient groups there exist a variety of possible interventions that may involve differential use of particular services, yet which yield broadly similar outcomes. Therefore in many sectors there may be a case for focusing on patients and the outcomes achieved rather than the particular services that patients might use. In other circumstances where the range of interventions and substitute services is more limited, careful analysis of the processes by which inequities in specific sectors arise will yield useful information about the causes of inequities (for example, the referral behaviour of doctors to tertiary centres for cardiac surgery)

Many studies fail to take account of the full range of factors which could potentially influence utilisation rates between groups, which makes their results of limited use. To some extent this may reflect lack of a sufficient amount of data. Some researchers have overcome this problem by combining large data sets such as a series of GHS data for a number of years. This brings other methodological problems such as comparability over time, but it does allow for the simultaneous

investigation of potentially relevant factors and overall is preferable to those studies which look only at the factor of specific interest to them (for example, studies which examine ethnicity in the absence of socio-demographic factors).

Although a great deal of valuable research can be done using large databases such as the GHS and British Household Panel Data, these exclude a substantial sector of the population living in institutions as well as the homeless population. Inequities of access to a range of health care services may exist for these groups and thus it would be useful to see research effort targeted in this direction, although the logistics of the associated methodological difficulties should not be underestimated.

We have identified a lack of information which gives clear direction about the causes of inequity. If we do not know how inequities are caused, we cannot design interventions to tackle the causes. It appears to take a considerable time to build up evidence relating to the causes of specific inequities. For example, observation of lower rates of surgical intervention for CHD amongst some ethnic groups has been followed by a number of studies investigating whether this is due to the behaviour of GPs and whether this in turn is justified on the basis of clinical considerations or not, the beliefs and behaviour of patients, the views of doctors in the secondary care sector or indeed whether it can be explained by variation in “need” after all. However, most of these studies have been small scale and focus only on one or two ethnic minority groups as they are very resource intensive and time consuming. The results although valid are thus not very generalisable.

Even if clear causes of inequities can be identified, our literature review confirms the findings of a recent report by the NHS Centre for Reviews and Dissemination that there is a general lack of good UK evidence about the effectiveness of interventions to tackle inequities. We believe that if inequity is considered an urgent policy issue, there is a clear need for well-designed studies which evaluate the effectiveness of equity policy interventions. Hitherto, on the rare occasions when such studies have been undertaken, they have tended to be small scale, with a notable lack of scientific design. Yet in principle there is no reason why such studies should not conform to the same high scientific standards expected of clinical trials, including, for example, the use of a control group.

We believe that further progress into tackling inequity in access to health care will inevitably require the implementation of a concerted research effort. We would therefore recommend that research into inequities should be much more clearly focused than hitherto. In particular, it should:

1. Seek to investigate health care sectors where existing evidence is sparse;
2. Ensure that the full range of factors leading to inequities is explored;
3. Where appropriate, seek to focus on the patients involved and the outcomes achieved, rather than individual services;
4. Where appropriate, ensure that people living in institutions are given as much attention as those living in households;

5. Ensure that studies are designed to offer some guidance on the likely causes leading to inequities.
6. Ensure that studies evaluating policy interventions are well designed and adequately funded.

APPENDIX

SEARCH STRATEGY

A systematic review of the literature was not feasible given the timescale and the breadth of the topics covered. However, a detailed search of the UK literature from 1990 onwards was undertaken and details are given at the end of this section. Additional references were sought from colleagues in CHE and the NHS Centre for Reviews and Dissemination and recent reviews were searched for relevant references. There was insufficient time to follow up the projects in progress listed on the "National Research Register".

An attempt was made to access "grey" literature, particularly recent research not yet published and work undertaken at a regional level. Each Regional Director of Research and Development was contacted and details of any relevant work in the region were requested, along with suggestions for any useful contacts at a Health Authority or Trust level. Relevant leads were followed up as appropriate and copies of draft reports were requested from authors if the end date of their project had not yet been reached.

Contact was also made with particular people within the Department of Health and academic arena who were felt to have a particular interest and expertise in this area. This included:

- Dr Lakhani - Central Health Outcomes Unit
- Ms Veena Bahl - Ethnic Minority Health, Department of Health
- Dr Elizabeth Wilson - Breast Cancer Screening, Department of Health
- Paul Marshall - Clinical Standards Advisory Group
- National Co-ordination Team for breast cancer screening
- Policy Studies Institute
- Nuffield Institute for Health
- College of Ophthalmology
- Dr Yoav Ben-Shlomo - Senior Lecturer in Epidemiology, Bristol University
- Dr Nick Payne - Sheffield University
- Professor Carol Propper - LSE
- Nick Black - LSHTM
- Jennifer Dixon - King's Fund

It should be noted that assurances were given to those who sent unpublished work to us that details of their work would not be circulated outside the Department of Health and thus we have excluded any references to this work in this version of the report. In addition, a request was sent out to members of the electronic health economics discussion group, requesting 'grey' literature and this provided a number of leads, which were followed up as time permitted (a few are still outstanding).

LITERATURE SEARCH

The following databases were searched for studies looking at variations in utilisation of, and access to, health services:

MEDLINE (OVID CD-ROM interface)	1990 - July 1997
Healthstar (OVID CD-ROM interface)	1990 - July 1997
Sociofile (on the ARC system)	1990 - 1997
Econlit (on the ARC system)	1990 - 1997
Applied Social Science Index and Abstracts (on Knight Ridder Datastar)	1990 - 1997
DHSS-Data (on Knight Ridder Datastar)	1990 - 1997
HELMIS (Nuffield Institute for Health)	1990 - 1997
National Research Register (CD-ROM prototype)	1990 - 1997
Social Science Citation Index (on BIDS)	1990 - 1997
Science Citation Index (on BIDS)	1990 - 1997

Some of the search strategies are shown below:

(1) DHSS-Data

Search Terms

- 1 (ACCESS OR UTILISATION OR UTILIZATION) WITH (SERVICE OR SERVICES)
- 2 VARIATION\$ WITH PRACTICE
- 3 ACCESS-TO-HEALTH-CARE.DE.
- 4 HOSPITAL-UTILISATION.DE.
- 5 ACTIVITY-MEASUREMENT.DE.
- 6 (PRESCRIBING OR PRESCRIPTIONS) WITH (DIFFERENCE\$ OR VARIATION\$)
- 7 (REFERRAL OR REFERRALS) WITH (DIFFERENCE\$ OR VARIATION\$)
- 8 HEALTH-SERVICES.DE.
- 9 AMBULATORY-CARE-SERVICES.DE.
- 10 HOSPITAL-SERVICES.DE.
- 11 HEALTH-SERVICE-FACILITIES.DE.
- 12 SOCIAL-WELFARE-FACILITIES.DE.
- 13 PRESCRIPTIONS.DE.
- 14 PRESCRIPTION-WRITING.DE.
- 15 GENERAL-PRACTICE-PRESCRIBING.DE.
- 16 DRUGS.DE.
- 17 REFERRAL.DE.
- 18 PATIENT-REFERRAL.DE.
- 19 SOCIAL-PROBLEMS.DE. OR HOUSING.DE. OR SLUMS.DE. OR SUBSTANDARD-HOUSING.DE.
- 20 TEMPORARY-HOUSING.DE. OR HOMELESSNESS.DE. OR OVERCROWDING.DE. OR MALNUTRITION.DE.
- 21 HUNGER.DE. OR OLD-PEOPLE.DE. OR AGE-DISCRIMINATION.DE. OR WORKING-CLASS.DE.

22 MIDDLE-CLASS.DE. OR SOCIAL-CLASS.DE. OR ONE-PARENT-
 FAMILIES.DE.
 23 DROP-OUTS.DE. OR SINGLE-HOMELESS-PEOPLE.DE. or TRANSIENT-
 PEOPLE.DE.
 24 BEGGARS.DE. OR VAGRANCY.DE. OR ETHNIC-MINORITIES.DE. OR
 DISADVANTAGED-PEOPLE.DE.
 25 ETHNIC-GROUPS.DE. OR MINORITIES.DE. OR RACIAL-
 DISCRIMINATION.DE. OR IMMIGRANTS.DE.
 26 AFRICAN.DE. OR ASIANS.DE. OR BANGLADESHI.DE. OR CHINESE.DE.
 OR COLOURED-PEOPLE.DE.
 27 INDIANS.DE. OR IRISH-PEOPLE.DE. OR WEST-AFRICANS.DE. OR
 WEST- INDIAN-PEOPLE.DE. OR POVERTY.DE.
 28 DEPRESSED-AREAS.DE. OR DEPRIVATION.DE. OR EDUCATIONALLY-
 DISADVANTAGED-PEOPLE.DE.
 29 URBAN-AREAS.DE. OR RURAL-COMMUNITIES.DE. OR LOW-
 INCOME.DE. OR MINIMUM-WAGES.DE.
 30 POOR-PEOPLE.DE. OR INDUSTRIAL-AREAS.DE. OR INNER-CITIES.DE.
 OR RURAL-AREAS.DE. OR SOCIAL-DECLINE.DE.
 31 URBAN-DEPRIVATION.DE.
 32 1 2 3 4 5 6 7
 33 8 9 10 11 13 12 14 15 16 17 18
 34 19 20 21 22 23 24 25 26 27 28 29 30 31
 35 32 AND 33 AND 34

(2) MEDLINE and Healthstar

1 ((access or utili#ation) adj5 (service or services)).ti,ab,sh.
 2 health services accessibility/
 3 (variation# adj5 practice).ti,ab,sh.
 4 exp health services/ut
 5 exp health facilities/ut
 6 prescriptions, drug/sn
 7 prescribing.tw.
 8 drug utilization/sn
 9 exp "referral and consultation"/sn,td,ut
 10 or/1-9
 11 exp great britain/
 12 10 and 11
 13 housing/
 14 public housing/
 15 nutritional status/
 16 age factors/
 17 socioeconomic factors/
 18 social class/
 19 single parent/
 20 exp ethnic groups/
 21 poverty/
 22 poverty areas/
 23 rural health/

24 unemployment/
 25 rural population/
 26 urban health/
 27 educational status/
 28 urban population/
 29 urbanization/
 30 exp homeless persons/
 31 medically underserved areas/
 32 (unemployed or unemployment).tw.
 33 (low adj income#).ti,ab,sh.
 34 (black or blacks or asian).ti,ab,sh.
 35 (deprived or deprivation).ti,ab,sh.
 36 (disadvantaged or equity or equitable or homelessness).ti,ab,sh.
 37 (illiterate or poverty or underprivileged).ti,ab,sh.
 38 (family adj income).ti,ab,sh.
 39 (inner adj cit\$).ti,ab,sh.
 40 (minority adj group#).ti,ab,sh.
 41 (vulnerable adj group#).ti,ab,sh.
 42 minority groups/
 43 (blue adj collar).ti,ab,sh.
 44 sex factors/
 45 residence characteristics/
 46 or/13-45
 47 12 and 46
 48 exp social work/sn,td
 49 exp community health services/sd,sn,td,ut
 50 long-term care/sn,td,ut
 51 residential treatment/sn,td
 52 health services for the aged/sn,sd,td,ut
 53 (personal adj social adj services).ti,ab,sh.
 54 (domiciliary adj4 (care or services or provision)).ti,ab,sh.
 55 (residential adj4 (care or services or provision)).ti,ab,sh.
 56 (community adj care).ti,ab,sh.
 57 exp disabled/
 58 exp mental retardation/
 59 exp mental disorders/
 60 exp aged/
 61 exp learning disorders/
 62 (social adj services).ti,ab,sh.
 63 (local adj authority).ti,ab,sh.
 64 (local adj authorities).ti,ab,sh.
 65 (1 or 2) and (57 or 58 or 59 or 60 or 61)
 66 or/48-56,62-65
 67 (residential adj home\$).ti,ab,sh.
 68 or/66-67
 69 68 and 11 and 46
 70 69 not 47

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