4 Black and Minority Ethnic Groups

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1 Summary

Statement of the problem/introduction

This chapter provides an overview of needs assessment for the Black and Minority Ethnic Groups (BMEGs). These groups are so diverse in terms of migration history, culture, language, religion and disease profiles that in this chapter we emphasise general issues pertinent to commissioning services. This is not a systematic review of literature on all diseases affecting BMEGs – the reader is referred to other chapters in this needs assessment series for details on specific disorders.

A number of general points are first provided as background to the chapter.

(a) As everyone belongs to an ethnic group (including the 'white' population), we have restricted our discussions to the non-white ethnic groups as defined by the 1991 census question. In addition, we do not cover needs of refugees and asylum seekers, whose number is growing within the UK.
(b) Principles of data interpretation are given to highlight important problems such as the interpretation of relative and absolute risk – the relative approach guides research, while the absolute approach guides commissioning.
(c) In the past, data on minority groups has been presented to highlight differences rather than similarities. The ethnocentric approach, where the 'white' group is used as the ideal, and partial analyses are made of a limited number of disorders, has led to misinterpretation of priorities. BMEGs have similar patterns of disease and overall health to the ethnic majority. There are a few conditions for which minority groups have particular health needs, such as the haemoglobinopathies.
(d) The majority of the research on health status and access and utilisation of health services has been skewed towards the South Asian and Afro-Caribbean populations, with little written on the other minority ethnic groups.
(e) There is an assumption that BMEGs' health is worse than the general population, and this is not always the case.
(f) The evidence base on many issues related to minority health is small and needs to be improved.

The historical and current migration patterns are important to local commissioning of services. Migration of communities from minority ethnic groups has been substantial during the latter half of the twentieth century, particularly from British Commonwealth countries such as Jamaica and India.

Problems of defining ethnicity, 'race' and culture are outlined, as they are complex concepts. Ethnicity is multi-dimensional and usually encompasses one or more of the following:

> 'shared origins or social background; shared culture and traditions that are distinctive, and maintained between generations, and lead to a sense of identity in groups; and a common language or religious tradition.'

It is also used as a synonym for 'race' to distinguish people with common ancestral origins. Indeed, 'race' has no scientific value and is a discredited biological term, but it remains an important political and psychological concept. Culture is briefly defined. An individual's cultural background has a profound influence on their health and healthcare, but it is only one of a number of influences on health – social, political, historical and economic, to name but a few.

Ethnic group has been measured by skin colour, country of birth, name analysis, family origin and as self-identified on the census question on ethnic group. All these methods are problematic, but it is accepted that the self-determined census question on ethnic group overcomes a number of conceptual limitations. For local ethnic monitoring, it is good practice to collect a range of information such as religion and languages spoken. There is a marked variation in quality of ethnic minority data collection and caution is advised in interpreting such data. Further training of staff is needed, together with mandatory ethnic coding clauses within the health service contracts.

Sub-categories

As BMEGs are not a homogeneous group, it is not easy to categorise them using standard format as in other chapters. For pragmatic reasons, we have used the following categories in this chapter:

- Indian
- Pakistani
- Bangladeshi
- Afro-Caribbean
- Chinese
- White.

Black and minority ethnic communities comprised, in 1991, 5.5% of the population of England and have a much younger age structure than the white group. It is important to note that almost half of the non-white group was born in the UK, which has important implications for future planning of services. BMEGs are also represented in all districts of Great Britain, with clustering in urban areas.

Prevalence and incidence

This section emphasises the importance of interpreting data on ethnic minority groups with care. One of the major issues is the comparison of health data of minority ethnic groups with those of the ethnic majority (i.e. 'the white population'). This ethnocentric approach can be misleading by concentrating on specific issues and diverting attention from the more common causes of morbidity and mortality. For example, while there may be some differences between ethnic groups in England, cardiovascular, neoplastic and respiratory diseases are the major fatal diseases for all ethnic groups. Even in the absence of specific local data, this principle is likely to hold.

In this section, two approaches are combined to give the absolute and relative disease patterns. Mortality in the UK can only be analysed by country of birth, and analysis has been carried out for people born in the following countries or groups of countries: India, Pakistan, Bangladesh, China/Hong Kong/Taiwan, the Caribbean islands and West/South Africa. In addition, lifestyle and some morbidity data are provided for Indians, Pakistanis, Bangladeshis, Chinese, Afro-Caribbean and white populations.

Due to the diversity and heterogeneous nature of all of the minority ethnic groups, it is not possible to give details of each specific disease by ethnic group. The top five causes of mortality (by ICD chapter) in all BMEGs are:

- diseases of the circulatory system (ICD 390–459)
- neoplasms (ICD 140–239)
- injury and poisoning (ICD 800–999)
- diseases of the respiratory system (ICD 460–519)
- endocrine, nutritional and metabolic diseases, and immunity disorders (ICD 240–279).

Mental health and haemoglobinopathies, which are specific to a number of minority ethnic groups, are also discussed.

Services available

This section provides an overview of services available and their use by minority groups. It focuses upon key generic issues (such as bilingual services) and specific issues (such as the haemoglobinopathies) which are of concern to minority ethnic communities.

On the whole there is no disparity in registration with general practitioner services by ethnic group except that non-registration seems to be higher amongst the African-Caribbean men. Data, from national surveys, show that – in general – minority ethnic groups (except possibly the Chinese) do not underuse either general practitioner or hospital services. After adjusting for socio-economic factors, minority ethnic respondents are equally likely to have been admitted to hospital. However, it appears that use of other community health services is lower than the general population. It is still not clear to what extent institutional racism and language and cultural barriers affect service utilisation.

Even though ethnic monitoring is mandatory within the secondary sector, there still is lack of quality data for adequate interpretation.

Data on cost of services for BMEGs is not available except for language provision and the haemoglobinopathies.

Effectiveness of services and interventions

In general, current evidence on the effectiveness and cost-effectiveness of specific services and interventions tailored to BMEGs is limited. As most studies have excluded individuals from the black and minority ethnic communities, there is a dearth of data on the effectiveness and cost-effectiveness in these groups. The reader is referred to other chapters for details of effectiveness and cost-effectiveness of specific services and interventions aimed at the whole population.

The quality of care provided is considered generally and with reference to cardiovascular disease and the haemoglobinopathies. In addition, specific services, such as communication, health promotion and training interventions, relevant to minority groups are mentioned.

Models of care recommendations

This section provides a generic framework for service development which includes the following points.

(a) Services for BMEGs should be part of 'mainstream' health care provision.
(b) The amended Race Relations Act should be considered in all policies.
(c) Facilitating access to appropriate services by:
- promoting access – this will entail reviewing barriers to care and provision of appropriate information on services available
- providing appropriate bilingual services for effective communication
- education and training for health professionals and other staff
- appropriate and acceptable service provision
- provision of religious and dietary choice within meals offered in hospitals
- ethnic workforce issues, including addressing racial discrimination and harassment within the workplace, and promoting race equality and valuing diversity in the workforce
- community engagement and participation.

(d) Systematising structures and processes for capture and use of appropriate data.

Details of all services are not covered, as the above framework outlines the principles underpinning them. Service specifications (e.g. cervical screening) that are pertinent to BMEGs are given as examples and can be adapted to other conditions.

Outcome measures, common targets, information and research priorities

The importance of principles guiding further action on priorities are covered in this section, which include:

- national standards of quality of health care to be applied to BMEGs
- emphasis on basic needs, irrespective of similarities or differences between ethnic minority and majority populations
- emphasis on quality of service rather than specific conditions
- focus on a number of priorities rather than a large number
- being guided by priorities identified by, and for, the general population, e.g. *Saving lives: Our Healthier Nation Strategy for England*, as the similarities in the life problems and health patterns of minority ethnic groups exceed the dissimilarities
- considering the impact of policies and strategies in reducing health inequalities amongst BMEGs.

As the development of outcome measures for each disease/condition and ethnic group is in its infancy, existing outcome measures need to be adapted and validated before use.

Further, to improve the quality of care for the BMEGs, the following dimensions of heath services need monitoring: access, relevance, acceptability, effectiveness, efficiency and equity.

National targets for commissioners to achieve have been set and cover:

(a) the development of a diverse workforce
(b) specific diseases and
(c) service delivery issues.

There is a need for further information by ethnic group from primary care, as well as community and cancer screening services. The quality and completeness of ethnic monitoring data from secondary care needs to be improved. There is a need to include ethnic group data on birth/death certificates.

There are many gaps in knowledge and the following are the main priorities for further research:

- the need for incidence data on the major conditions affecting mortality and morbidity
- the evidence base by ethnic group on health status, access to services, health outcomes and cost-effectiveness of interventions is poor and needs to be addressed by all national commissioning bodies
- further evaluation of different models of providing bilingual services, such as physically present interpreters and advocates compared to telephone and telemedicine interpreting
- assessing the effect of racism on health and health care.

2 Introduction and statement of the problem

In this chapter we are not dealing with a specific disease category but a group. Black and Minority Ethnic Groups (BMEGs) are heterogeneous – they are populations grouped together by a concept – that of 'ethnic group'. There are conceptual difficulties with defining the latter and a pragmatic definition has been adopted. We can only provide an **overview** of the issues that commissioners of health services need to consider to meet the needs of these diverse groups. The reader is referred to other sources for details of particular ethnic groups as well as to chapters in this series for specific diseases or services. Some specific areas mentioned in *Saving Lives: Our Healthier Nation* (http://www.archive.official-documents.co.uk/document/cm43/4386/4386.htm) will be discussed, but in addition we want to highlight other priority areas which are also important for these groups.

There are some general points we want to emphasise:

(a) Everyone belongs to an ethnic group (including the 'white' population). We cannot provide a comprehensive review and have restricted our discussions to the non-white ethnic groups as defined by the 1991 census question. In addition, we do not cover needs of refugees and asylum seekers, whose number is growing within the UK. Refugees, again, are a diverse group who have wide-ranging health, social and educational needs, and the reader is referred to Aldous *et al.*[1] and Jones & Gill.[2]

(b) Principles of data interpretation are given to highlight important problems such as the interpretation of relative and absolute risk – the relative approach guides research, while the absolute approach guides commissioning.[3,4]

(c) In the past, data on minority groups has been presented to highlight differences rather than similarities. The ethnocentric approach, where the 'white' group is used as the ideal, and partial analyses are made of a limited range of disorders, has led to misinterpretation of priorities.[4,5] BMEGs have similar patterns of disease and overall health to the ethnic majority.[6,7] There are a few conditions for which minority groups have particular health needs such as the haemoglobinopathies.

(d) The majority of the research on health status and access and utilisation of health services has been skewed towards the South Asian and Afro-Caribbean populations,[8,9] with little written on the other minority ethnic groups.

(e) There is an assumption that BMEGs' health is worse than the population and this is not always the case.

(f) The evidence base on minority health is now sparse and needs to be improved.

Needs assessment is a relatively new concept and the process is outlined in Chapter One and by Wright *et al.*[10] This is a complex process for minority ethnic groups due, for example, to cultural diversity, languages spoken, and their genetic susceptibility to specific diseases. These health needs also change with

time after migration.[11] This chapter builds upon previous work undertaken on needs assessment and minority ethnic groups which provides further insight into this complex area.[12,13]

Migration

Migration to Britain has been occurring for the past 40 000 years from all over the world so that everyone living in Britain today is either an immigrant or descended from one.[14]

It is important to note that immigrant and ethnic group are not synonymous, and nor should it be assumed that for all minority ethnic groups, immigration is for settlement purposes.[15] 'Immigrant' refers to someone who has arrived in this country for at least a year. **Figure 1** shows the growth of ethnic minority population within the last 30 years with data derived from the Labour Force Survey.[16] Note that this survey underestimates the BMEG population in comparison with the 1991 census.

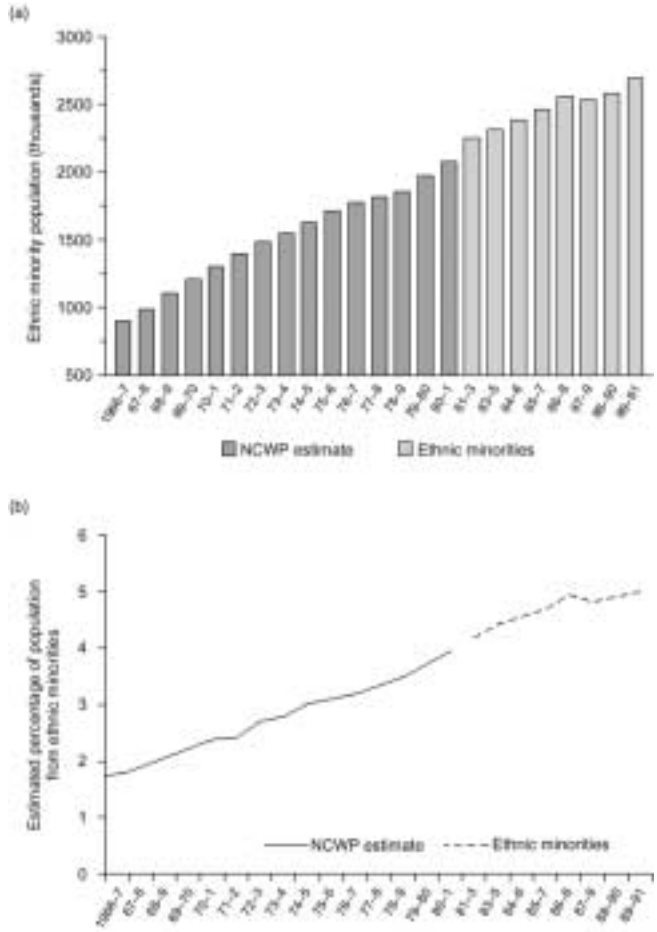


Figure 1: Trend in total ethnic minority population, 1966–67 to 1989–91. NCWP = New Commonwealth and Pakistan ethnic origin.

The reasons for this migration are complex and specific to groups.[17–21] During the late 1940s there was a need for labour, and British Commonwealth citizens were encouraged to come to Great Britain. This migration started with migrants from Jamaica, then the Indians arriving in the 1960s.[22] Under the British Nationality Act of 1948, citizens of the British Commonwealth were allowed to enter Britain freely, to find work, to settle and to bring their families. Many chose this option as a result of employer and government-led recruitment schemes. However, successive immigration policies since the 1960s have significantly reduced this option for persons from the New Commonwealth and Pakistan.[23] Political changes in East Africa ('Africanisation') stimulated a flow of 'Asian' refugees of Indian origin in the late 1960s and early 1970s.[24] The more recent migrants have come from the Sylhet region of Bangladesh, but most migration during the past 30 years or so has consisted of families of the earlier, mainly male, South Asian migrants coming to join their relatives.

Data for international migration for the UK are partial and complex.[25] Most of the data are based on administrative systems – related to control – rather than migrant numbers.[15] However, there is annual variation in net international migration, which contributed a third of the overall population growth.[26] Migration occurs from as well as into the UK.

The majority of people leave the UK due to work, whereas those arriving do so to accompany or join their families. Migrants to the UK are younger than those leaving. Within the UK, Chinese in their twenties are the most mobile group.[26]

Defining ethnicity, 'race' and culture

In this section, an overview of the problems of defining and describing ethnicity is highlighted, together with its measurement. A great deal of confusion surrounds the meaning of 'ethnicity' and it is commonly interchanged with 'race'. The latter is now a discredited biological term but it remains an important political and psychological concept.[27] Social scientists have been debating for some time on what different ethnic groups should be called[28,29] – the so-called 'battle of the name'.[30] This debate has also featured in health services research.[31–35]

What is ethnicity?

Ethnicity is also a multi-dimensional concept that is being used commonly in medical research.[34] It is neither simple nor precise and is not synonymous with 'race'. It embodies one or more of the following: 'shared origins or social background; shared culture and traditions that are distinctive, maintained between generations, and lead to a sense of identity and group; and a common language or religious tradition'.[4] It is also usually a shorthand term for people sharing a distinctive physical appearance (skin colour) with ancestral origins in Asia, Africa, or the Caribbean.[36] This definition also reflects self-identification with cultural traditions and social identity and boundaries between groups. Several authors[4,37] have stressed the dynamic nature and fluidity of ethnicity as a concept.

What is race?

Both race and ethnicity are complex concepts that are appearing in an increasing number of publications.[33] In the United States, the collection of data on race is well established and used extensively for epidemiological, clinical and planning purposes.[38] Buffon in 1749[39] first introduced race into the biological literature. It was explicitly regarded as an arbitrary classification, serving only as a convenient label and not a definable scientific entity. Race, however, carries connotations of genetic determinism and possibly of relative

value.[40] It is known that 85% of all identified human genetic variation is accounted for by differences between individuals whereas only 7% is due to differences between what used to be called 'races'.[41] Current consensus is that 'race' has no scientific value[27] as there is more genetic variation within than between groups.[42]

What is culture?

The notion of culture was first defined by Taylor in 1871[43] as:

> *'That complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society.'*

Anthropologists have further refined this.[44,45] It is seen as a set of guidelines which state 'how to *view* the world, how to experience it *emotionally*, and how to *behave* in it in relation to other people, to supernatural forces or gods, and to the natural environment'.[45] These guidelines are passed on to the next generation to provide cohesion and continuity of a society.

Hence culture is a social construct that is constantly changing and notoriously difficult to measure.[46] 'Culture' is further complicated by societies consisting of *subcultures*[43] in which individuals undergo *acculturation*, adopting some of the attributes of the larger society.[45] Although an individual's cultural background has profound influence on their health and health care, it is only one of number of influences on health – social, political, historical and economic, to name but a few.[33,45,47]

Operationalising ethnicity

Given the importance of ethnicity on health, there are pragmatic grounds for assigning people into ethnicity groups. We would suggest the benefit of collecting data on ethnic group is to help reduce inequalities in health and health care. For the latter, guidelines have been recently produced for studying ethnicity, race and culture.[48]

A number of descriptions have been given to these ethnic groups – i.e. 'ethnic minorities', 'ethnic minority groups' or 'minority ethnic groups'. Note that these groups are not simply minorities in a statistical sense: they are both relatively small in number and in some way discriminated against on account of their ethnic identity.[47] As the title of this chapter states, we have used the term 'minority ethnic groups' to emphasise the question of population size. As stated earlier, we recognise that all individuals in all groups belong to an ethnic group[36] – it is simply that these groups vary in size, and the focus in this chapter is on the non-white group. In addition, the term 'black' has also been used as an inclusive political term to counter the divisive aspects of racism. Debate and controversy continues amongst other minority ethnic groups, as 'black' does not allow them to assert their own individuality in historical, cultural, ethical and linguistic terms.[49]

Several methods used to allocate individuals to ethnic groups are discussed briefly below:

(a) skin colour
(b) country of birth
(c) name analysis
(d) family origin and
(e) 1991 census question on ethnic group.

Skin colour

A classification based on physical traits (phenotype) seems an obvious way to measure ethnicity. Skin colour is subjective, imprecise and unreliable.[4] For example, colour cannot distinguish between the majority 'white' group (i.e. between the Irish and English) and minority ethnic groups (i.e. between Indians, Pakistanis and Bangladeshis).

Country of birth

The country of birth has been commonly used as a proxy for ethnicity,[50,51] as this was readily available – particularly on death certificates. A question on country of birth has been included in each census since 1841. It is an objective but crude method of classification. For example, it does not take account of the diversity of the country of origin of the individual; neither those 'white' people born in countries, such as India, ruled by the British Empire nor the children of immigrants (i.e. 'second-generation immigrants') are identified by this method.[4]

Name analysis

Name analysis has been used in several studies.[52,53,54] South Asian* names are distinctive and relate largely to religion,[55] where endogamy is the norm.[56] The validity of this method has been shown to be good,[55,57] though this will diminish with increasing exogamy.[56]

A software package, developed by Bradford Health Authority and the City of Bradford Metropolitan Council, is available which can identify South Asian names.[58] This program has been shown to have 91.0% sensitivity, 99% specificity and a positive predictive value of 87.5%.[59]

Family origin

This has been used in combination with the census question in a recent study.[60] This approach, based upon country of origin, is relatively straightforward and stable, 'though individuals within particular groups cannot be considered homogeneous in respect of factors related to self-determined ethnicity and health.'[49] Both self-perception and family origin are well related.[60] The difficulty with this approach occurs when an individual responds that they have mixed family origins.[60]

1991 census question on ethnic group

Despite the inclusion in the 1920 Census Act of 'race' as an issue upon which questions might be asked, there has been a long history to the acceptance of an 'ethnic question' in the 1991 census.[61,62] The 1991 census question on ethnic group is a pragmatic, self-determined ethnic group question which was found to be acceptable despite conceptual limitations.[63]

The 1991 census was the first in Great Britain to include a question on ethnic group. Before this, reliable information on ethnic groups was derived from data on country of birth; the Labour Force and General Household Surveys (*see* http://www.data-archive.ac.uk/ for further details).

* South Asian refers to individuals who were born in or originate from the Indian subcontinent (India, Pakistan, Bangladesh, Sri Lanka).

The census ethnic question may not meet the needs of all researchers and commissioners, and several authors have suggested that extra information is collected, such as languages spoken and religion, to describe the groups being studied.[4,37,48]

The question also does not deal adequately with people of mixed parentage[64] – most of whom have one minority parent and one white.[60] In addition, the white group conflates a number of groups which have distinct cultural, geographical and religious heritages, i.e. those of Irish, Greek or Turkish origin.

It has been estimated that the census missed 2.2% of the resident population (about 1.2 million people) due to such factors as non-response, one-person households and transient populations, and unpopularity of the community charge.[65] This undercount was not uniform across ethnic groups, age, gender, or geographic areas. To adjust for this, imputed data has been developed (Appendix 1).[66]

Why collect data on ethnic group?

There are two main reasons for this. First, national data was needed to assess the scale of disadvantage and discrimination amongst the Black and Minority Ethnic Groups.[67] Secondly, primary data was required, as it was no longer viable to rely on surrogate measures, i.e. country of birth, for planning.[68]

Coding of ethnic group in the 1991 census

The 1991 census question (**Box 1**) included two categories – 'Black other' and 'Any other ethnic group' – to allow individuals to describe their ethnic group in their words if they felt none of the pre-coded boxes (numbered 0 to 6) was suitable. To deal with these 'written' answers and also with multi-ticking of boxes, the Census Offices developed an extended classification containing 35 categories in all (Appendix 2).

Box 1: The ethnic group question in the 1991 Census of Great Britain

Ethnic group	White	☐	0
	Black-Caribbean	☐	1
Please tick the appropriate box	Black-African	☐	2
	Black-Other	☐	
	please describe ...		
	Indian	☐	3
	Pakistani	☐	4
	Bangladeshi	☐	5
	Chinese	☐	6
If the person is descended from more than one ethnic or racial group, please tick the group to which the person considers he/she belongs, or tick the 'Any other group' box and describe the person's ancestry in the space provided.	Any other ethnic group	☐	
	please describe ...	☐	

Due to a number of limitations,[69] including lack of recognition of the significant Irish group resident in this country, the 2001 question as been modified as shown in **Box 2**. A question on religion and country of birth, but not proficiency in English language, has been also added.[69]

Box 2: 2001 Census ethnic group categories

Choose ONE section from a to e, then tick the appropriate box to indicate your cultural background.

a. White
- British ☐
- Irish ☐
- Any other White background, *please write in* ☐

b. Mixed
- White and Black Caribbean ☐
- White and Black African ☐
- White and Asian ☐
- Any other mixed background, *please write in* ☐

c. Asian or Asian British
- Indian ☐
- Pakistani ☐
- Bangladeshi ☐
- Any other Asian background, *please write in* ☐

d. Black or Black British
- Caribbean ☐
- African ☐
- Any other Black background, *please write in* ☐

e. Chinese and other ethnic group
- Chinese ☐
- Any other, *please write in* ☐

Ethnic monitoring

Ethnic monitoring was introduced in all hospitals in 1995 to enable the NHS to provide services without racial or ethnic discrimination. Currently, the use and the delivery of services vary on these grounds, with or without intent, which hinders the achievement of equity in the NHS.[36] As the census categories may be insufficient to meet the needs of the local population, these categories should be adapted for the particular service and may include items such as religion, language, or dietary requirements.[70]

As there is marked variation in quality of data collection by speciality, particularly mental health services,[71] caution is advised in using this data. Further training of staff is needed together with mandatory coding clauses within contracts.[71]

There is a call for ethnic monitoring to be implemented within the primary care setting,[72] as feasibility has been demonstrated.[73,74]

For local purposes, it is good practice to collect a range of information,[48] such as:

- self-assigned ethnicity (using nationally agreed guidelines enabling comparability with census data)
- country or area of birth (the subject's own, or that of parents and grandparents, if applicable)
- years in country of residence

- religion
- language.

3 Sub-categories

Who are they?

However we define ethnicity (*see* 'What is ethnicity?' above), the 'ethnic label' is a crude indicator of need. For pragmatic reasons we have used the census ethnic question to define ethnic group in this chapter. The more detailed classification is used for the majority of tables in the printed *Country/Region Reports* and the Local *Base Statistics* released in computer-readable form for further analyses by local authorities and researchers. The fourfold classification is used in the Small Area Statistics, a computerised dataset for the 145 000 Enumeration Districts and Output Areas in Great Britain.[75] These are the smallest areas for which census data is released, each containing approximately 200 households.

Pragmatic categorisation

BMEGs are not a homogeneous group, so it is not easy to categorise them using standard format as in other chapters. For pragmatic reasons we have therefore used the following ethnic group (self-assigned/country of birth) categories:

- Indian
- Pakistani
- Bangladeshi
- Afro-Caribbean
- Chinese
- White.

How many are there?

In the 1991 census over 3 million people (5.5% of the population) identified themselves as belonging to one of the non-white ethnic groups (**Table 1**). South Asians (Indians, Pakistanis, Bangladeshis) together formed 2.7% of the British population. 'Black' ethnic groups accounted for 1.6% of the population, with Black-Caribbeans being the largest group. Chinese were 0.3% of the population (**Table 1**).

Age and sex structure

Figure 2 presents age-sex pyramids by ethnic group in which the black shading in each population pyramid represents the percentage of each ethnic group born outside the UK.[16] First note that the minority ethnic groups have a much younger age structure than the white group. The Black-Caribbean population has an hour glass structure, with the bottom half of the structure representing the UK-born children of the

first-generation immigrants. Secondly, almost half (46.8%) of the non-white group were born in the United Kingdom.[16]

Also note that Bangladeshi men outnumber the women in the older age groups and the Pakistani pattern is similar, albeit less pronounced. Black-Caribbean women outnumber Black-Caribbean men, though part of this may be due to underenumeration of young Black-Caribbean men (*see* '1991 census question on ethnic group' above). Among other Asians, there is again a preponderance of females.

Table 1: Ethnic group composition of the population in 1991 (percentages).

Ethnic group	Great Britain	England & Wales	England	Wales	Scotland
White	94.5	94.1	93.8	98.5	98.7
Ethnic minorities	**5.5**	**5.9**	**6.2**	**1.5**	**1.3**
Black	*1.6*	*1.8*	*1.9*	*0.3*	*0.1*
Black-Caribbean	0.9	1.0	1.1	0.1	0.0
Black-African	0.4	0.4	0.4	0.1	0.1
South Asian	*2.7*	*2.9*	*3.0*	*0.6*	*0.6*
Indian	1.5	1.7	1.8	0.2	0.2
Pakistani	0.9	0.9	1.0	0.2	0.4
Bangladeshi	0.3	0.3	0.3	0.1	0.0
Chinese & Others	*1.2*	*1.2*	*1.3*	*0.6*	*0.5*
Chinese	0.3	0.3	0.3	0.2	0.2
Total population	54,888.8	49,890.3	47,055.2	2,835.1	4,998.6

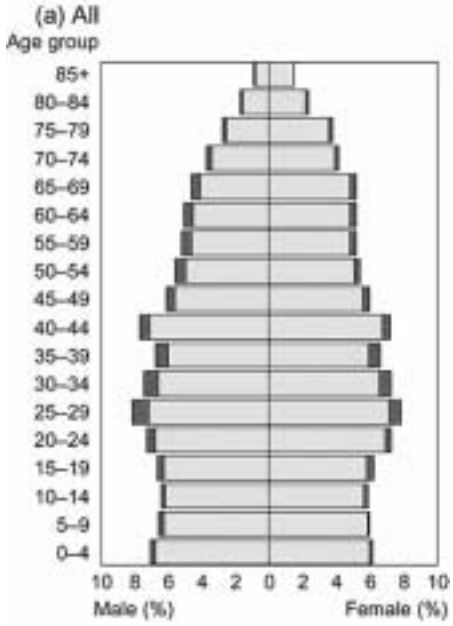
Source: Owen 1992[75]

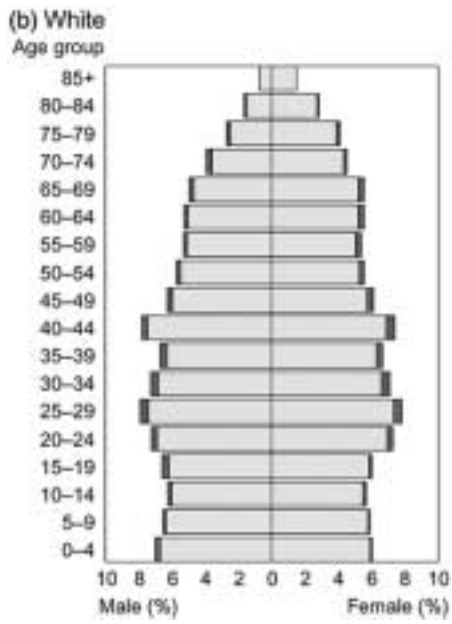
For further details on the major ethnic groups, see Peach 1996.[21]

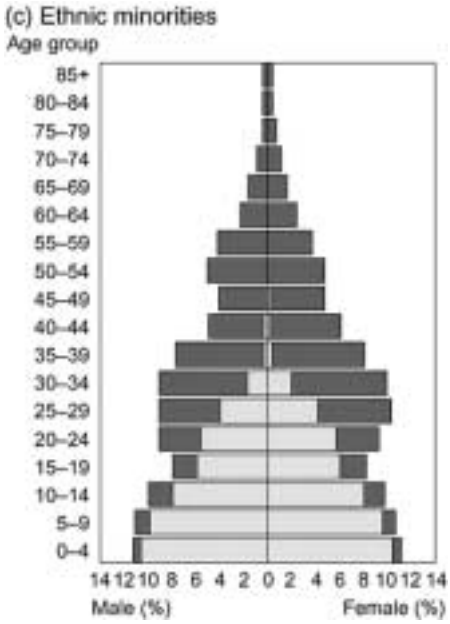
Estimating future population size of an ethnic group is complicated and has to take into account not only fertility, mortality and net migration, but also ethnic identity.[76] There will, for reasons obvious from **Figure 2**, be more elderly Black-Caribbeans and Indians. This has major implications for health and social care.[77,78]

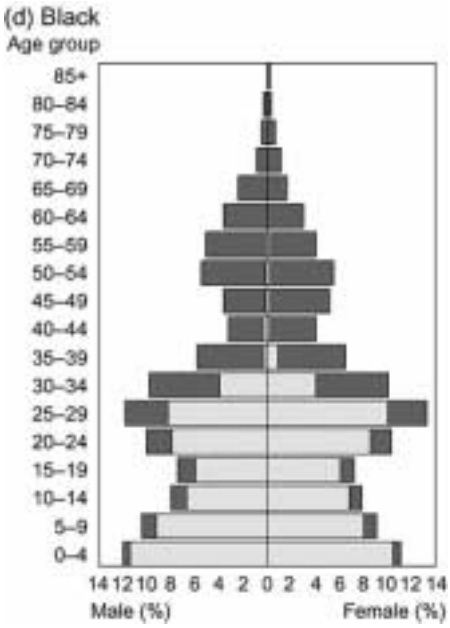
The assumption that minority elders have supportive extended families is false[79] – the need for health and social care will grow.

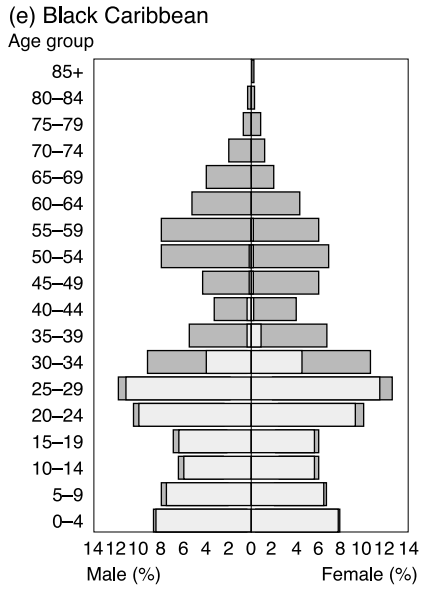
Figure 2: Age and sex distribution of persons born within and outside the UK by ethnic group 1991. Note: darker shading represents persons born outside UK.[16]

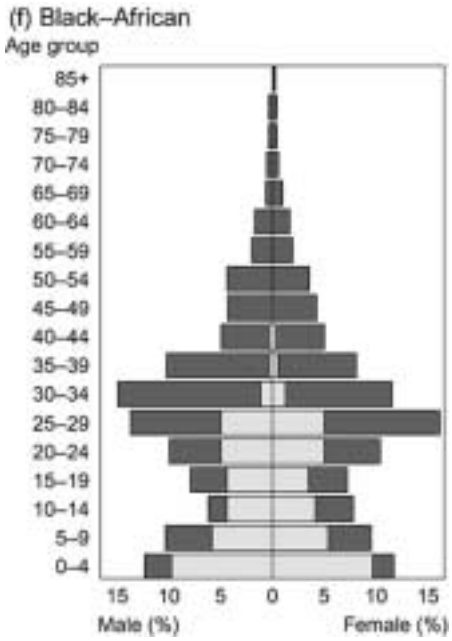


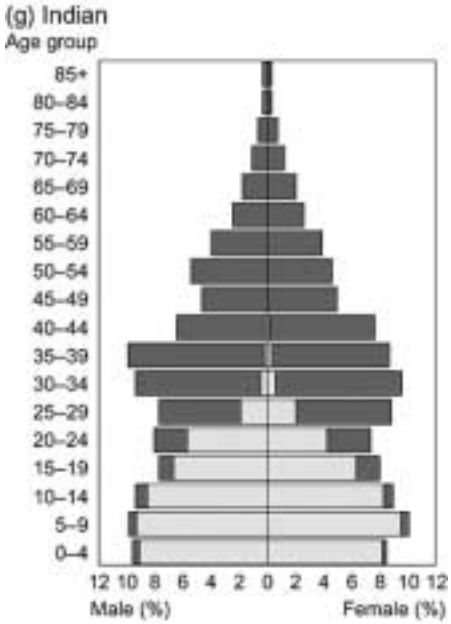


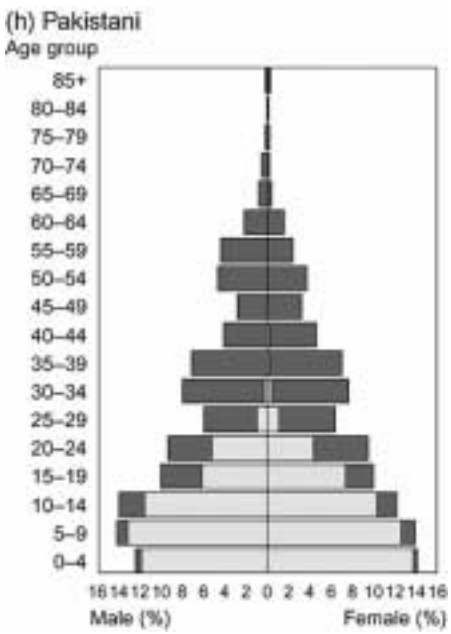


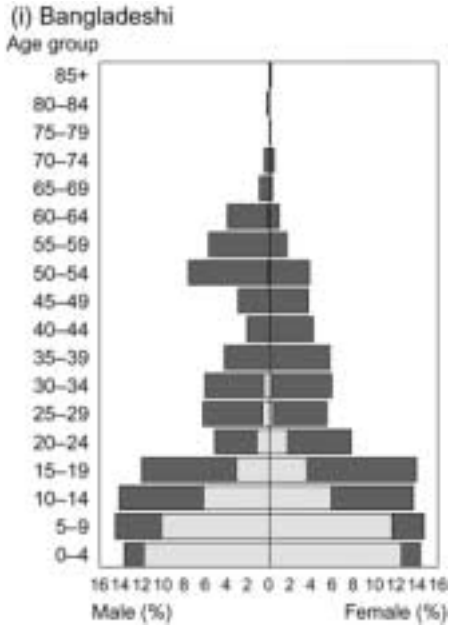


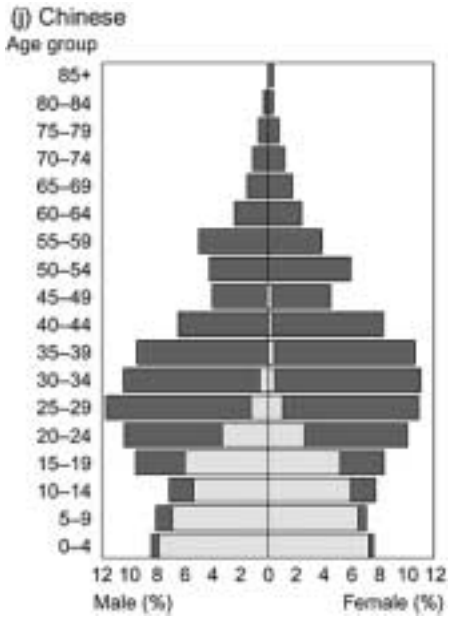












Where are they living?

Black and Minority Ethnic Groups are represented in all districts of Great Britain.[80] The geographical distribution varies across the country, with clustering in urban areas.

Table 2: Regional variations in ethnic composition, within Great Britain 1991.

Region or metropolitan county	Percentage of resident population						
	All ethnic minorities	Black		Indian	Pakistani	Bangla-deshi	Chinese
		Caribbean	African				
South East	9.9	1.9	1.0	2.6	0.8	0.6	0.5
Greater London	20.2	4.4	2.4	5.2	1.3	1.3	0.8
East Anglia	2.1	0.2	0.1	0.3	0.3	0.1	0.2
South West	1.4	0.3	0.1	0.2	0.1	0.1	0.1
West Midlands	8.2	1.5	0.1	3.1	1.9	0.4	0.2
West Midlands MC	14.6	2.8	0.2	5.5	3.5	0.7	0.2
East Midlands	4.8	0.6	0.1	2.5	0.4	0.1	0.2
Yorks & Humberside	4.4	0.4	0.1	0.8	2.0	0.2	0.2
South Yorkshire	2.9	0.5	0.1	0.3	1.0	0.1	0.2
West Yorkshire	8.2	0.7	0.1	1.7	4.0	0.3	0.2
North West	3.9	0.3	0.1	0.9	1.2	0.2	0.3
Greater Manchester	5.9	0.7	0.2	1.2	2.0	0.5	0.3
Merseyside	1.8	0.2	0.2	0.2	0.1	0.1	0.4
North	1.3	0.0	0.0	0.3	0.3	0.1	0.2
Tyne & Wear	1.8	0.0	0.1	0.4	0.3	0.3	0.3
Wales	1.5	0.1	0.1	0.2	0.2	0.1	0.2
Scotland	1.3	0.0	0.1	0.2	0.4	0.0	0.2
Great Britain	5.5	0.9	0.4	1.5	0.9	0.3	0.3

Source: adapted from Owen 1996[16]

Over 70% of the combined ethnic minorities are clustered in two regions of Great Britain, the South East and the West Midlands, which together contain 40% of the total population of Great Britain. These are the only regions of the country where the region's share of minority groups is higher than its share of the total population (**Table 3**). The Black-Caribbean and Black-African groups reside predominantly in the Greater London area. The Indians also reside in Greater London as well as the East and West Midlands. On the other hand, there is a relatively low proportion of Pakistanis in Greater London with their greatest concentration in West Yorkshire and the West Midlands Metropolitan County. The Bangladeshis are found predominantly in Greater London particularly in Tower Hamlets.[81] The Chinese community is much more evenly distributed throughout Great Britain. Detailed geographical spread by district is given in Rees & Philips (1996).[80]

Table 3: Ethnic population by standard regions, Great Britain 1991.

Region	Total	% of Great Britain	Minority	% of minority
North	3,026,732	5.5	38,547	1.3
Yorks and Humberside	4,836,524	8.8	214,021	7.1
East Midlands	3,953,372	7.2	187,983	6.2
East Anglia	2,027,004	3.7	43,395	1.4
South East	17,208,264	31.3	1,695,362	56.2
South West	4,609,424	8.4	62,576	2.1
West Midlands	5,150,187	9.4	424,363	14.1
North West	6,243,697	11.4	244,618	8.1
Wales	2,835,073	5.2	41,551	1.4
Scotland	4,998,567	9.1	62,634	2.1
Great Britain	54,888,844	100.0	3,015,050	100.0

Source: Peach 1996[22]

Social class profile

Table 4 shows that socio-economic position of the minority groups differs significantly. The Chinese, Black-African and Indian males are strongly represented in class I. On the other hand, Black-Caribbean, Pakistani and Bangladeshi are over-represented in classes IV and V.

Table 4: Social class by gender of residents aged 16 and over in Great Britain (%).

	I	II	III (NM)	III (M)	IV	V	Total*
Males							
White	7	29	11	33	15	5	1,226,189
Black-Caribbean	2	17	11	40	22	8	9,803
Black-African	13	25	18	19	17	8	2,839
Indian	13	30	14	23	17	3	18,581
Pakistani	7	23	13	30	22	5	6,547
Bangladeshi	5	11	18	30	31	5	1,970
Chinese	17	21	20	32	8	2	34,334
Females							
White	2	28	39	7	16	8	981,909
Black-Caribbean	1	33	33	7	18	8	10,742
Black-African	4	32	28	7	17	12	2,658
Indian	5	24	35	6	27	3	13,197
Pakistani	4	27	34	7	26	2	2,048
Bangladeshi	5	21	32	9	30	3	393
Chinese	8	30	31	13	13	5	2,797

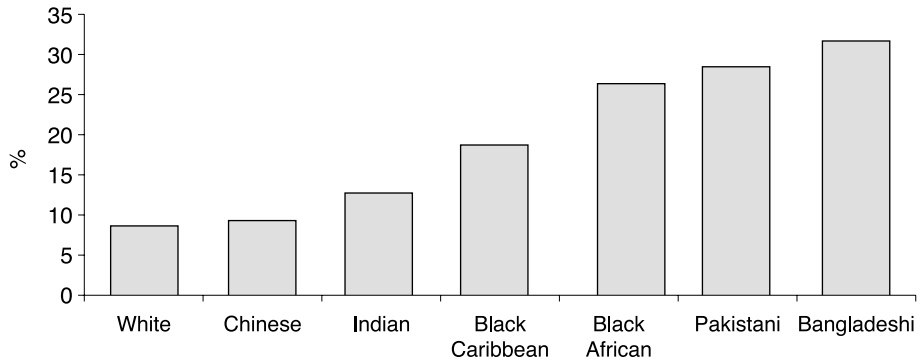
* Excludes those who were serving in the armed forces and those whose occupation was inadequately described or not stated.
Source: adapted from OPCS/GRO(S) 1993[66]

Females are less well represented in class I than males. The Chinese fare better, with nearly 70% in the higher socio-economic groups (classes I-III (NM)).

Note that this data needs to be interpreted cautiously, as it is recognised that measurement of social class by these groupings is limited. These groupings are not internally homogeneous, so that ethnic minorities could be found in lower occupational grades.[82]

Unemployment

Figure 3 shows the variation in unemployment rates by ethnic group with the Black-Caribbean unemployment rate double the national, Black-African rates three times as high, while Pakistani and Bangladeshi rates being highest of all (29 and 32% respectively).



Source: adapted from Owen, 1993[83]

Figure 3: % Unemployment by ethnic group, Great Britain 1991.

4 Prevalence and incidence

Epidemiological approaches

Traditional epidemiological approaches have defined priorities using data on actual and relative mortality, years of life lost, morbidity and loss of social functioning. Ethnicity and race have been used as variables for measurement of such needs by ethnic group. The most popular approach has been to compare the health statistics of ethnic minority groups in relation to those of the population as a whole or the ethnic majority – i.e. in Britain, the 'white' population. Essentially, a disease that is commoner than in the white population is declared a problem and a relatively higher priority than one that is less common than in the white

population. This comparative perspective, which is ethnocentric, has some intuitive merit but can also mislead. By concentrating on specific issues, attention may be given to a narrow range of services and drawn away from ensuring that all services are equitable and available to all. This approach has led to some needs of ethnic minorities being ignored, e.g. respiratory diseases and lung cancer.

Table 5: Deaths and SMRs* in male immigrants from the Indian subcontinent (aged 20 and over; total deaths = 4,352).

By rank order of number of deaths				By rank order of SMR			
Cause	**Number of deaths**	**% of total**	**SMR**	**Cause**	**Number of deaths**	**% of total**	**SMR**
Ischaemic heart disease	1,533	35.2	115	Homicide	21	0.5	341
Cerebrovascular disease	438	10.1	108	Liver and intrahepatic bile duct neoplasm	19	0.4	338
Bronchitis, emphysema and asthma	223	5.1	77	Tuberculosis	64	1.5	315
Neoplasm of the trachea, bronchus and lung	218	5.0	53	Diabetes mellitus	55	1.3	188
Other non-viral pneumonia	214	4.9	100	Neoplasm of buccal cavity and pharynx	28	0.6	178
Total	2,626	60.3	–		187	4.3	–

* Standardised mortality ratios, comparing with the male population of England and Wales, which was by definition 100.
Source: adapted from Senior and Bhopal 1994[4]

This is shown in **Table 5**, which contains data originally presented by Marmot and colleagues.[51] The two columns give radically different perspectives on disease patterns. Generally, when presented using the number of cases, major health problems for minority groups are seen as similar to those of the population as a whole. When presented using the SMR, the differences are emphasised. For example, while there are some differences between ethnic groups in Britain, circulatory diseases, cancer and respiratory diseases are the major fatal diseases for all ethnic groups. Even in the absence of specific local data, this principle is likely to hold: that the important diseases and other health problems of the population generally will also be important to minority ethnic groups. The relative risk approach, which focuses on diseases more or less common in minority ethnic groups, can refine the analysis and interpretation of conclusions reached using simple counts of cases. Interpretation of data has often been misguided by an excessive emphasis on:

- differences rather than similarities
- the uncritical use of 'white populations' as a standard to which minority populations should aspire
- the use of partial analysis and datasets, e.g. looking at a limited number of conditions or particular age groups, leading to misinterpretation of the priorities.

The pattern of disease and interpretation of priorities and needs depends on the mode of presentation of data. The recommendations arising are the following.

- Base the epidemiological component of the needs assessment on ranked causes based on case numbers and disease rates.
- Refine understanding by looking at comparative indices such as the SMR, which will focus attention on inequalities and inequities.
- Draw causal hypotheses based on differences with care, and with due emphasis on social and economic deprivation as explanatory factors.
- Be aware that inferences of biological difference between ethnic/racial groups may be particularly prone to error and misinterpretation, and may harm the standing of minority groups.

In this section we combine the two approaches and give the actual and relative disease patterns. In studying the pattern of disease for health needs assessment, the following are basic items of information:

- the number of cases
- the disease rate, i.e. number of cases per unit of population per unit time, for example 10 cases per 1000 population per year
- the rank position of the disease in question based on the number of cases or rates
- the rate relative to that expected, e.g. the SMR or relative risk
- the rank based on SMRs.

Unfortunately, most existing reports and papers neither present analyses in this format nor provide the information to permit readers to extract it themselves.

Collecting and interpreting epidemiological data for health needs assessment

Questions which are essential to the process of health needs assessment include the following.

- Which ethnic groups are to be studied? Are the ethnic categories used to define population sub-groups acceptable, ethical and accurate?
- What data need to be collected? Have we collected accurate, representative data?
- How do we derive from the data a true picture of the health and health care needs and priorities?

The answer to the first question is usually dictated by the classification used at census. For national studies reliant on census data for denominator information, this is invariably the case. While we may be interested in the pattern of health and disease in Muslims, Punjabis, Hindi-speakers, or those from the Gujarat, such patterns are unlikely to be available, at least from national data. The nearest we can get is the appropriate category at census. Clearly this is a weakness, but the census is the key to building a picture of the ethnic minority communities and analysing and interpreting most epidemiological data, and its limitations are noted (section '1991 census question on ethnic group' above).

Using pragmatic categories can be misleading. For example, one ethnic category that is commonly used is 'South Asian' or 'Asian' as a label for people from India, Pakistan, Bangladesh and Sri Lanka. This label leads to an erroneous view that South Asians are ethnically homogeneous – which may have adverse consequences for health. For example, Bangladeshi men had an extremely high prevalence of current smoking (49%) compared to all South Asian men (26%).[84] Indian men reported a prevalence of 19%, and white men 34%. The same survey showed many important differences by religious affiliation too.

The answer to the second question depends on the underlying purpose. In health needs assessment the challenge is to provide both professionals and members of ethnic minority communities with balanced information to allow them to make informed choices about priority issues and to make rational judgements on the actions to be taken. The value of mortality and morbidity data is self-evident. Despite a national policy

for ethnic health monitoring, reliable national statistics on hospital utilisation are not available. Information on the patterns of (non-fatal) ill-health is difficult to obtain. Cancer registrations include country of birth and are published for some areas.

Except in some health authorities with very large ethnic minority populations, local information on causes of death will be hard to make sense of, simply because the numbers of deaths per year will be small. Knowing the make-up of the local ethnic minority community, it is possible to gauge the major health problems by applying the findings from national data to the local populations. Even in the absence of any data on the causes of death in the ethnic group of interest, disease patterns are likely to be similar to the general population, e.g. coronary heart disease, strokes and cancers are major fatal diseases for all ethnic groups in Britain.

Lifestyle is a major determinant of health. All aspects of lifestyle which are important for the general population are important for ethnic minorities, including smoking, alcohol, exercise, diet in relation to chronic disease, and stress. These must not be overlooked when undertaking health promotion with ethnic minorities (there is evidence that this can happen). Other lifestyle issues worth noting in some communities include, e.g. the use of traditional substances such as eye cosmetics that may contain heavy metals, self-treatment with herbal and other remedies, and a strong sense of modesty, especially among women, which may affect the health (vitamin D deficiency) and health care (physical examination).[85] Many such traditional customs have been recorded and much attention has been given to them. However, their overall importance to health is small in comparison with the issues in the above paragraph.

Statistics on self-reported health status and on aspects of lifestyle are in some respects easier to interpret than disease rates, in other respects more difficult. In the two main nationally relevant sources of data – the surveys by the Health Education Authority[86–88] and by the Policy Studies Institute[84] – the main focus is on presenting numbers and percentages, usually giving the figures for the 'white' ethnic majority population. With some simple manipulation of the statistics, ranks can be ascertained and comparisons made. The interpretation of such data in the context of health needs assessment requires the same wary approach outlined for the SMR.

Note that the Health Survey for England for 1999 focused on BMEGs and has produced further useful data. The full anonymised dataset for this survey is available through the Data Archive at Essex University (http://www.data-archive.ac.uk/).

There are some subtle difficulties in comparing ethnic groups in lifestyle and self-reported health. The most important questions to ask are the following.

- Are the populations comparable? It is common practice to draw samples for different ethnic groups using different methods. Differences are inevitable, and may have no relation to ethnicity *per se*, if the samples are different. For example, if some of the ethnic populations are inner city ones, and others are a mix of urban and rural populations, differences will inevitably result.
- Are the data collected equally valid in the different ethnic groups? The concepts underpinning questions (let us say on angina) may be interpreted differently in different ethnic groups. Where questions need translating, the potential pitfalls are magnified.

These limitations need to be remembered in health needs assessment. The validity of health statistics for minority ethnic groups is based on several assumptions: that ethnicity categories and specific ethnic group designations are not only valid but that they are consistently defined and ascertained; also that such categories and designations are completely understood by the populations questioned; that participation and response rates are high and similar for all populations questioned; and that people's responses are consistent over time.

Data

Available data on mortality and lifestyles can be re-analysed or extracted from published documents to provide a foundation in the epidemiological contribution to the health needs assessment process. The demonstration of missing gaps is important to guide future work. National hospital data are not available, and information on disease incidence, as opposed to mortality and prevalence, is unavailable.

Mortality analyses

Limitations of mortality analyses

The accuracy and validity of the numerator (death data) and denominator (population data) and the possibility of numerator-denominator bias should be considered. Death data include information on any person dying in England and Wales and thereby include deaths of visitors, but only include information on residents of England and Wales who die in other countries if these are notified to consulates. Such reporting probably varies across different populations. Recording of country of birth on death certificates, which is reliant on an informant, may be less accurate than on the census, when the person is still alive to provide the information, leading to the possibility of numerator-denominator bias (i.e. where country of birth is recorded differently in census and mortality data). Previous analyses of mortality by country of birth have grouped together countries for which this is a particular issue (e.g. South Asian countries),[51] but this approach obscures potentially important differences between countries of birth. Death certificates do not provide an accurate reflection of prevalence of certain conditions in the general population e.g. diabetes mellitus.[89] Variation in accuracy of cause of death described on death certificates by country of birth has not been studied but may exist. The census excludes people who are not normally residents, but deaths of visitors are included in the numerator. Census data is not complete and no data were obtained for 2.2% of the population in 1991. Underenumeration varied by population and was greatest for Afro-Caribbean men of 20–29 years of age.[90] The effect of underenumeration is to increase apparent mortality rates. As the census occurs only every 10 years, information on population size becomes rapidly inaccurate. Restricting the mortality analyses to the years around the census minimises the effect of population variations. In these analyses we have used four years of mortality data to increase the number of deaths to allow meaningful analysis.

At present, analyses of mortality are limited to the use of country of birth because ethnic group is not available on death certificates. Country of birth is an inexact measure of ethnicity as demonstrated by the cross-tabulation of country of birth by ethnic group given in the 1991 census.[91] For example, of people born in West Africa, 73% described themselves as being of black African origin and 22% described themselves as being of a white ethnic group. Several studies of immigrant populations have suggested that mortality experience tends to approximate to that of the host population with both time and succeeding generations.[51,92] The healthy migrant effect is a term used to describe the fact that migrants as a whole tend to be healthier than the populations they leave and join. There is also, however, the possibility that people migrate as a consequence of ill-health. Country of birth provides no indication of length of stay in that country. Mortality by country of birth is a particularly poor measure of health in children – very few children living in this country were born abroad and mortality statistics are a very incomplete measure of health of children. Socio-economic factors are also likely to influence migration and health.

Some of these limitations can be overcome by analysing data from the Longitudinal Study, a 1% sample of people enumerated by the 1971 census (http://www.statistics.gov.uk/services/longitudinal.asp). Unfortunately, the number of deaths in this dataset is too small for accurate interpretation. We have provided

two tables (see Tables 19 and 20) showing the major causes of death by ethnic group as a means of corroborating the general findings on the major causes of death from the national data.

Methods

The Office for National Statistics provided population and death data for England and Wales. Population data were available from the 1991 census by sex and country of birth in five-year age groups. Death data for the four-year period around the census 1989–92 were available by sex, age, country of birth and underlying cause of death coded using the ninth revision of the International Classification of Diseases (ICD-9).

For this analysis, six countries or groups of countries were studied, as for many countries the numbers of deaths were too small to permit separate tables. West/South Africa denotes data from people born in the Gambia, Ghana, Sierra Leone, Nigeria, Botswana, Lesotho, Swaziland and Zimbabwe. The term Caribbean is used to cover the following countries: Barbados, Jamaica, Trinidad & Tobago, Guyana, Belize, West Indies and other Caribbean islands. Data for people born in Hong Kong, China and Taiwan were combined into a single group that we call Chinese. Data for people born in Bangladesh, India and Pakistan are analysed for individual countries.

Death data are presented in various forms (*see* 'Epidemiological approaches' and 'Collecting and interpreting epidemiological data for health needs assessment' above). The average number of deaths per year over the four-year period is given to provide information on absolute mortality and to permit the reader to assess the reliability of estimates of rates and SMR. Age-standardised death rates per 100 000 population per year were calculated by using the direct method for each sex by five-year age group with 1991 data on population of England and Wales as the standard. Comparisons between standardised rates for men and women are not directly comparable because age distribution differs between men and women. Comparisons between ethnic groups for each sex separately are possible for directly standardised rates within any age group. Population data by country of birth for five age groups are given in Appendix 3.

Standardised mortality ratios (SMRs) were calculated using the indirect method – i.e. reference rates generated from numbers of deaths and population data for England and Wales as a whole by sex and five-year age group applied to populations by country of birth to estimate the expected number of deaths by cause and sex. The SMR is calculated as the ratio of observed to expected deaths for various causes of death, sex and age groups with 95% confidence intervals calculated using the number of deaths over the four-year period. SMRs for individual causes of death were examined for the 20–74 year age group. SMRs cannot be compared either across the sexes or ethnic groups, as age distributions differ by sex and ethnic group, i.e. the SMR can only be compared in relation to the standard for each sex of 100.

The cause-specific mortality tables are presented in rank of the number of deaths by ICD chapter. The main text gives data for the top five causes of death, again at the level of the ICD chapter. In presenting the findings, attention is drawn to the major causes of death, and where the excess is substantial, and the number of deaths is not insignificant, to high SMRs. Readers may also wish to note low SMRs, even though space does not permit the authors to comment in detail.

Mortality patterns

Tables 6–17 summarise the mortality analyses for each country of birth group. The even numbered tables show age-specific death rates for the age groups 0–19 years, 20–44 years, 45–64 years, 65–74 years, 75+ years, and also all age mortality. The odd-numbered tables give the causes of death at ages 20–74 combined. Numbers of deaths in the youngest age group are very small. These tables indicate that SMRs for large age bands can obscure differences that are noted in smaller age bands. SMRs tend to be closer to 100 for older age groups, whereas for younger age groups SMRs tend to exceed 100. As a consequence of smaller numbers of deaths at younger ages, confidence intervals around SMRs tend to be wider. The data confirm

that major causes of death are not necessarily associated with high SMRs. Some of the findings of interest are discussed below for each country of birth group.

Indian-born

Table 6(a) shows that while death rates were highest in Indian men aged 75 years and more, most deaths actually occurred in the age group 45–74, reflecting the relatively small size of the population over 75 years. The overall SMR was marginally above the population average (103), with the SMR varying by age – the value of 112 in the 20–44 age group being the most notable finding.

Table 6(b) shows fewer deaths (and lower death rates) in each age group than in **Table 6(a)**, largely reflecting women's better survival compared to men. The overall SMR was 113, indicating that Indian women had higher mortality than the whole population of women. (Men and women cannot, for reasons already discussed, be compared on the SMR or the all age-standardised rate.)

Table 6(a): Age-specific mortality for males born in India (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	4.75	66	93 (56–145)
20–44 years of age	131	137	112 (103–122)
45–64 years of age	1,050	1,355	106 (103–109)
65–74 years of age	653	6,156	102 (98–106)
75+ years of age	478	14,224	95 (91–100)
All ages	2,318	1,156	103 (101–105)

Table 6(b): Age-specific mortality for females born in India (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	4	52	137 (77–227)
20–44 years of age	68	64	93 (82–105)
45–64 years of age	586	852	108 (103–112)
65–74 years of age	568	4,331	122 (117–127)
75+ years of age	657	12,832	113 (109–117)
All ages	1,883	1,281	113 (110–115)

Circulatory diseases, and specifically ischaemic heart disease, were the dominant causes of death in men (**Table 7(a)**) and women (**Table 7(b)**). These SMRs corroborate past analyses showing these diseases as 30–50% more common in Indians compared to the population as a whole.[5,6] The rates/100 000 show that Indian men have much more circulatory disease than women, a point obscured in SMR analyses.

Neoplasms were a dominant cause of death, even though the SMR is lower than in the whole population, and in contrast to the little attention they sometimes receive, the commonest neoplasms in Indians are lung cancer in men and breast cancer in women.

Injury and poisoning was the third ranking cause of death in men, and the fifth in women (**Tables 7(a)** and **7(b)**). The SMR for women was raised.

Table 7(a): Causes of mortality ranked by number: Indian-born men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	861	495	134 (130–139)
Chronic rheumatic heart disease (393–398)	5.25	3.1	147 (91–224)
Hypertensive disease (401–405)	12	6.8	145 (107–192)
Ischaemic heart disease (410–414)	668	380	142 (137–147)
Cerebrovascular disease (430–438)	120	73	134 (123–147)
Diseases of arteries, arterioles and capillaries (440–448)	21.25	13	62 (50–77)
2. NEOPLASMS (140–239)	275	160	59 (55–62)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	8	4.7	89 (61–126)
Malignant neoplasm of nasopharynx (147)	0.5	0.3	64 (8–231)
Malignant neoplasm of oesophagus (150)	14.5	8.6	64 (49–83)
Stomach cancer (151)	13	7.0	42 (31–55)
Colorectal cancer (153/154)	26	15	49 (40–59)
Liver cancer (155)	7.5	4.1	118 (80–169)
Lung cancer (162)	68	40	44 (39–50)
Prostate cancer (185)	38	22	78 (63–96)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	22.5	15	110 (93–129)
17. INJURY AND POISONING (800–999)	94	54	110 (99–122)
Poisoning by drugs, medicinals and biological substances (960–979)	2.25	1.4	177 (81–336)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	87	53	85 (76–95)
Pneumonia and influenza (480–487)	18	11	89 (70–112)
Chronic obstructive pulmonary disease and allied conditions (490–496)	55	35	77 (67–88)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	71	37	158 (140–178)
Diseases of oesophagus, stomach and duodenum (530–537)	11	6.3	103 (74–138)
Cirrhosis (571)	44	21	247 (212–287)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	58	33	230 (201–262)
Diabetes mellitus (250)	51	30	317 (275–364)
Disorders of thyroid gland (240–246)	0	0	0.0 (0–501)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	21	12	269 (186–375)
Tuberculosis (010–018)	10	6.2	529 (379–717)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	16.5	10	67 (52–85)
Inflammatory diseases of the central nervous system (320–326)	1	0.6	104 (28–267)
Multiple sclerosis (340)	0.75	0.3	24 (5–70)

Table 7(a): Continued.

10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	11	6.8	144 (105–192)
Nephritis, nephrotic syndrome and nephrosis (580–589)	7.75	4.8	194 (132–276)
Diseases of male genital organs (600–608)	0.25	0.2	23 (1–128)
5. MENTAL DISORDERS (290–319)	10.5	6.3	109 (78–147)
Senile and presenile organic psychotic conditions (290)	2.5	1.5	61 (29–112)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	5.25	3	137 (85–209)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	5.25	3.1	119 (74–182)
14. CONGENITAL ANOMALIES (740–759)	3	2.0	75 (38–130)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	2.5	1.4	88 (42–161)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0.75	0.4	110 (23–321)

Death from diseases of the respiratory system is common and only slightly less common than in the whole population. The importance of digestive disorders as a cause of death is noteworthy, as are the high and relatively high rates of cirrhosis in men (but low in Indian women, *see* **Table 7(b)**).

Diabetes mellitus is substantially commoner in Indians, men and women, than in the population as a whole, and a major killer. For all these diseases the cardiovascular risk factors, including smoking, are of prime importance in either initiating or promoting disease.

The sizeable variations in the SMRs in various conditions are worthy of note, particularly for cirrhosis in men, tuberculosis in men and women and nephritis.

Pakistani-born

Table 8(a) shows, strikingly, that while death rates are highest in the oldest age groups, most deaths occurred in 45–64 year olds (reflecting the population structure). The overall SMR was lower than the population average for men, with an excess only in the under 20 year age group.

Table 8(b) shows that the number of deaths and death rates were lower in women than men. Again, in comparison to the population average for women, there was a raised SMR in the under 20 year age group but overall the SMR was substantially lower than the population average.

In Pakistani men, and to a lesser extent in women, circulatory diseases dominate (**Tables 9(a)** and **9(b)**). In women, the SMR for ischaemic heart disease was only 11% higher than the whole population, with a bigger excess in cerebrovascular disease. As for Indians, neoplasms were the second ranking cause of death. Diabetes mellitus outranked respiratory diseases in men and women. Cirrhosis was, unlike Indians, not especially common in Pakistanis. Injury and poisoning were high in Pakistani men (**Table 9(a)**), but not so in women (**Table 9(b)**).

Table 7(b): Ranked causes of mortality: Indian-born women.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95%CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	413	268	149 (135,164)
Chronic rheumatic heart disease (393–398)	6.75	4.1	97 (64,141)
Hypertensive disease (401–405)	11	7.2	159 (69–313)
Ischaemic heart disease (410–414)	261	178	158 (148–168)
Cerebrovascular disease (430–438)	103	74	146 (119–178)
Diseases of arteries, arterioles and capillaries (440–448)	10	6.7	68 (29–133)
2. NEOPLASMS (140–239)	254	147	70 (61,79)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	5.75	2	93 (19,272)
Malignant neoplasm of nasopharynx (147)	0.25	0.3	68 (2,381)
Oesophageal cancer (150)	9.25	6.4	88 (35,181)
Stomach cancer (151)	4.25	1	9 (0,50)
Colorectal cancer (153/154)	23	12	58 (35,89)
Liver cancer (155)	5	2.5	132 (36–338)
Malignant neoplasm of trachea, bronchus and lung (162)	22	15	31 (18,48)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	24	15	108 (87,131)
Malignant neoplasm of cervix uteri (180)	13	7.8	65 (30,123)
Malignant neoplasm of female breast (174)	59	32	67 (58,65)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	56	38	91 (68–119)
Pneumonia and influenza (480–487)	15	10	99 (52–169)
Chronic obstructive pulmonary disease and allied conditions (490–496)	30	21	68 (45,99)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	47	30	262 (189–352)
Diabetes mellitus (250)	42	28	333 (238–453)
Disorders of thyroid gland (240–246)	0.5	0.3	0 (0,543)
17. INJURY AND POISONING (800–999)	41	23	142 (121,166)
Poisoning by drugs, medicinals and biological substances (960–979)	0.75	0.4	123 (25,359)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	35	21	99 (67,140)
Diseases of oesophagus, stomach and duodenum (530–537)	6	4	105 (39,228)
Cirrhosis (571)	8.5	4.8	45 (15,105)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	17	9.7	305 (167–512)
Tuberculosis (010–018)	8.5	5.2	810 (263–1,889)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	13.25	8.5	52 (25–96) (35,328)
Inflammatory diseases of the central nervous system (320–326)	1.0	0.5	43 (18,84)
Multiple sclerosis (340)	2.0	1.1	131 (56–258)

Table 7(b): Continued.

10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	12	7.8	155 (42–398)
Nephritis, nephrotic syndrome and nephrosis (580–589)	6.5	4.3	90 (36,185)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	10	6.6	44
5. MENTAL DISORDERS (290–319)	3	2.3	(23,77)
Senile and presenile organic psychotic conditions (290)	2.25	1.85	58 (26,110)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	2.75	1.8	100 (50,178)
11. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (630–676)	1.5	1.1	288 (106–627)
14. CONGENITAL ANOMALIES (740–759)	0.75	0.4	22 (4,64)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0.5	0.3	0 (0,549)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	0.5	0.3	45 (5,61)

Table 8(a): Age-specific mortality for males born in Pakistan (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	14	109	124 (94-161)
20–44 years of age	68	111	89 (79-100)
45–64 years of age	365	1,285	101 (96-107)
65–74 years of age	79	4,331	74 (66-83)
75+ years of age	44	8,370	58 (49-67)
All ages	571	887	90 (87-94)

Table 8(b): Age-specific mortality for females born in Pakistan (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	8	55	144 (98-203)
20–44 years of age	43	68	101 (87-118)
45–64 years of age	129	693	91 (83-99)
65–74 years of age	44	2,903	81 (69-93)
75+ years of age	41	6,192	54 (46-63)
All ages	267	772	83 (78-88)

Table 9(a): Ranked causes of mortality: Pakistani-born men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	291	489	139 (131–147)
Chronic rheumatic heart disease (393–398)	1.5	1.6	123 (45–268)
Hypertensive disease (401–405)	2.75	3.6	101 (51–181)
Ischaemic heart disease (410–414)	229	372	148 (138–158)
Cerebrovascular disease (430–438)	42	72	149 (127–174)
Diseases of arteries, arterioles and capillaries (440–448)	6.75	13	67 (44–97)
2. NEOPLASMS (140–239)	76	123	48 (43–54)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	3.5	6.9	108 (59–180)
Malignant neoplasm of nasopharynx (147)	0.25	0.2	81 (2–449)
Malignant neoplasm of oesophagus (150)	1	1.0	13 (4–34)
Stomach cancer (151)	3.5	6.2	35 (19–58)
Colorectal cancer (153/154)	5	7.8	28 (17–44)
Liver cancer (155)	3.5	5.5	158 (86–265)
Lung cancer (162)	17	32	34 (27–43)
Prostate cancer (185)	2.5	20	31 (15–57)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	16	6.2	120 (92–154)
17. INJURY AND POISONING (800–999)	29	36	62 (51–74)
Poisoning by drugs, medicinals and biological substances (960–979)	1	0.8	131 (36–334)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	25	47	258 (210–314)
Diabetes mellitus (250)	23	44	418 (336–514)
Disorders of thyroid gland (240–246)	0	0	0.0 (0–1,559)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	22	40	70 (56–86)
Pneumonia and influenza (480–487)	4.75	8.6	68 (41–106)
Chronic obstructive pulmonary disease and allied conditions (490–496)	14	25	64 (48–84)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	14	19	84 (64–110)
Diseases of oesophagus, stomach and duodenum (530–537)	1.25	1.8	37 (12–85)
Cirrhosis (571)	7.5	10.1	105 (71–150)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	8.5	13.5	269 (186–375)
Tuberculosis (010–018)	3.25	6	466 (248–796)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	7.25	8	77 (51–110)
Inflammatory diseases of the central nervous system (320–326)	0.25	1	61 (2–341)
Multiple sclerosis (340)	0.5	0.5	40 (5–143)

Table 9(a): Continued.

10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	4	6	160 (91–260)
Nephritis, nephrotic syndrome and nephrosis (580–589)	3.25	5	248 (132–424)
Diseases of male genital organs (600–608)	0	0	0 (0–317)
5. MENTAL DISORDERS (290–319)	2.5	5.1	66 (32–122)
Senile and presenile organic psychotic conditions (290)	0.75	2.3	71 (15–209)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	1.5	2.4	105 (38–227)
14. CONGENITAL ANOMALIES (740–759)	1.25	1.4	63 (21–148)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	1	0.9	77 (21–197)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	0.5	1.4	38 (5–137)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0.25	0.3	109 (3–608)

Table 9(b): Ranked causes of mortality: Pakistani-born women.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	**Average number of deaths per year**	**Average directly age-standardised death rate per 100,000 per year**	**SMR (95% CI)**
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	73	189	122 (108–137)
Chronic rheumatic heart disease (393–398)	1	1.2	62 (17–158)
Hypertensive disease (401–405)	2.25	5.7	203 (93–385)
Ischaemic heart disease (410–414)	38	107	111 (93–130)
Cerebrovascular disease (430–438)	24	62	159 (129–194)
Diseases of arteries, arterioles and capillaries (440–448)	1.75	1.9	74 (30–152)
2. NEOPLASMS (140–239)	54	106	55 (48–63)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	1.75	3.8	196 (79–403)
Malignant neoplasm of nasopharynx (147)	0.25	0.6	208 (5–1,157)
Oesophageal cancer (150)	0	0	0 (0–49)
Stomach cancer (151)	2	3.4	75 (32–148)
Colorectal cancer (153/154)	2.75	4.4	32 (16–58)
Liver cancer (155)	0.75	1.0	90 (19–262)
Malignant neoplasm of trachea, bronchus and lung (162)	4.5	10	31 (18–49)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	5	7.8	77 (47–118)
Malignant neoplasm of cervix uteri (180)	1.25	3.5	25 (8–58)
Malignant neoplasm of female breast (174)	13	20	49 (37–64)

Table 9(b): Continued.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	13.75	46	105 (79–137)
Pneumonia and influenza (480–487)	2.75	9.9	92 (46–165)
Chronic obstructive pulmonary disease and allied conditions (490–496)	7.25	24	82 (55–118)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	13.5	39	316 (237–412)
Diabetes mellitus (250)	12	38	425 (313–563)
Disorders of thyroid gland (240–246)	0.5	0.5	320 (39–1,157)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	9.5	22	627 (443–860)
Tuberculosis (010–018)	5.75	14	2,219 (1,407–3,329)
17. INJURY AND POISONING (800–999)	9.5	11	69 (49–95)
Poisoning by drugs, medicinals and biological substances (960–979)	0.5	0.4	92 (11–332)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	6	11	71 (45–105)
Diseases of oesophagus, stomach and duodenum (530–537)	1.25	2.5	96 (31–223)
Cirrhosis (571)	2.25	3.4	63 (29–119)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	4	5.8	263 (150–427)
Nephritis, nephrotic syndrome and nephrosis (580–589)	3	4.4	480 (248–838)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	3	7.0	160 (83–280)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	2.75	4.2	47 (24–84)
Inflammatory diseases of the central nervous system (320–326)	0.25	0.2	90 (2–504)
Multiple sclerosis (340)	0.25	0.5	16 (0–88)
11. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (630–676)	1.5	0.75	408 (150–888)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	1.25	2.3	167 (54–390)
14. CONGENITAL ANOMALIES (740–759)	1.25	2.6	85 (28–198)
5. MENTAL DISORDERS (290–319)	0.5	2.0	30 (4–107)
Senile and presenile organic psychotic conditions (290)	0.5	2.0	77 (9–278)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0.25	0.3	152 (4–844)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	0	0	0 (0–226)

It is noteworthy that infectious and parasitic diseases, though relatively very common (SMR = 335), were the fifth ranking cause of death in Pakistani women.

The data demonstrate the vital importance of controlling cardiovascular risk factors, including smoking, and better control of diabetes in Pakistanis.

Bangladeshi-born

Table 10(a) shows a huge preponderance of deaths in the 45–64 age group, though, as before, death rates rose with age. The SMR was raised, compared to the population average, in this age group, but was substantially lower in the others. For women (**Table 10(b)**), numbers of deaths and death rates were substantially lower than in men. The overall SMR, and SMRs within each age band, were substantially lower than the population average.

Table 11(a) shows that in men, the disease patterns were similar to Indians and Pakistanis (circulatory disease and neoplasms dominating), with an exceptionally high SMR from liver cancer and diabetes. Cirrhosis was a relatively common cause of death in men but not woman.

Table 11(b) shows that the number of deaths in women were small, but neoplasms and circulatory diseases were the commonest cause of death. In women, coronary heart disease rates were relatively low in comparison to the whole population.

Bangladeshi men are in urgent need of interventions to reduce their cardiovascular risk and control diabetes.

Table 10(a): Age-specific mortality for males born in Bangladesh (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	7	47	63 (42–91)
20–44 years of age	11		
	77	50 (36–67)	
45–64 years of age	210	1,725	136 (127–145)
65–74 years of age	22	5,159	88 (71–109)
75+ years of age	4	5,953	40 (23–64)
All ages	255	973	114 (107–121)

Table 10(b): Age-specific mortality for females born in Bangladesh (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	2	16	32 (13–65)
20–44 years of age	12		
	52	81 (59–107)	
45–64 years of age	30	704	82 (68–98)
65–74 years of age	6	2,299	69 (44–103)
75+ years of age	4	4,248	69 (44–103)
All ages	53	620	70 (61–80)

Table 11(a): Ranked causes of mortality: Bangladeshi-born men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	128	536	156 (143–170)
Chronic rheumatic heart disease (393–398)	0	0	0 (0–190)
Hypertensive disease (401–405)	0.75	1.8	71 (15–208)
Ischaemic heart disease (410–414)	93	370	151 (136–167)
Cerebrovascular disease (430–438)	29	148	281 (232–337)
Diseases of arteries, arterioles and capillaries (440–448)	1	3.8	27 (7–69)
2. NEOPLASMS (140–239)	52	229	83 (72–95)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	0.75	19	56 (11–162)
Malignant neoplasm of nasopharynx (147)	0	0	0 (0–693)
Malignant neoplasm of oesophagus (150)	1.25	9	40 (13–94)
Stomach cancer (151)	1.75	9.4	44 (18–90)
Colorectal cancer (153/154)	3.5	19	49 (27–83)
Liver cancer (155)	8.5	27	948 (656–1,324)
Lung cancer (162)	18	91	92 (72–116)
Prostate cancer (185)	0.75	1.4	26 (5–75)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	5.5	25	109 (68–165)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES AND IMMUNITY DISORDERS (240–279)	15	52	410 (312–528)
Diabetes mellitus (250)	14	49	670 (506–870)
Disorders of thyroid gland (240–246)	0.25	2.1	1,111 (28–6,191)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	13	41	204 (152–268)
Diseases of oesophagus, stomach and duodenum (530–537)	3.5	17	266 (146–447)
Cirrhosis (571)	6.5	13	235 (153–344)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	11	47	94 (69–127)
Pneumonia and influenza (480–487)	3	14	120 (62–209)
Chronic obstructive pulmonary disease and allied conditions (490–496)	7	31	89 (59–128)
17. INJURY AND POISONING (800–999)	8	29	46 (31–65)
Poisoning by drugs, medicinals and biological substances (960–979)	0.25	7.6	90 (2–503)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	5.75	16	486 (308–729)
Tuberculosis (010–018)	1	4.3	378 (103–968)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	2.25	13	242 (110–458)
Nephritis, nephrotic syndrome and nephrosis (580–589)	1	6.8	202 (55–518)
Diseases of male genital organs (600–608)	0	0	0 (0–928)

Table 11(a): Continued.

6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	1.25	2.2	36 (12–83)
Inflammatory diseases of the central nervous system (320–326)	0.5	0.8	317 (38–1,144)
Multiple sclerosis (340)	0	0	0 (0–190)
4. DISEASES OF BLOOD AND BLOOD–FORMING ORGANS (280–289)	0.25	0.6	51 (1–284)
5. MENTAL DISORDERS (290–319)	0.25	4.1	19 (0–106)
Senile and presenile organic psychotic conditions (290)	0	0	0 (0–265)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0.25	0.5	300 (8–1,670)
14. CONGENITAL ANOMALIES (740–759)	0.25	0.4	33 (1–182)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	0	0	0 (0–167)
16. SYMPTOMS, SIGNS AND ILL–DEFINED CONDITIONS (780–799)	0	0	0.0 (0–191)

Table 11(b): Ranked causes of mortality: Bangladeshi-born women.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	**Average number of deaths per year**	**Average directly age-standardised death rate per 100,000 per year**	**SMR (95% CI)**
2. NEOPLASMS (140–239)	17	173	64 (50–81)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	1	17.2	404 (110–1,034)
Malignant neoplasm of nasopharynx (147)	0	0	0 (0–2,349)
Malignant neoplasm of oesophagus (150)	0.75	12	163 (34–475)
Stomach cancer (151)	0.5	20	75 (9–272)
Colorectal cancer (153/154)	2	16	92 (40–182)
Liver cancer (155)	0.5	4.1	221 (27–797)
Lung cancer (162)	2	20	56 (24–111)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	1.75	12	95 (38–196)
Malignant neoplasm of cervix uteri (180)	1	5.7	64 (17–164)
Malignant neoplasm of female breast (174)	1.75	17	22 (9–46)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	14.5	154	107 (81–138)
Chronic rheumatic heart disease (393–398)	1	3.2	253 (69–647)
Hypertensive disease (401–405)	0.25	0.9	96 (2–532)
Ischaemic heart disease (410–414)	6.75	73	91 (60–133)
Cerebrovascular disease (430–438)	5.5	57	151 (95–229)
Diseases of arteries, arterioles and capillaries (440–448)	0.5	11	97 (12–349)

Table 11(b): Continued.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	2.25	26	73 (33–139)
Pneumonia and influenza (480–487)	0.75	12	103 (21–302)
Chronic obstructive pulmonary disease and allied conditions (490–496)	1.25	6.6	61 (20–143)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	2.25	33	97 (44–184)
Diseases of oesophagus, stomach and duodenum (530–537)	0	0	0.0 (0–292)
Cirrhosis	1	5.6	93 (25–237)
17. INJURY AND POISONING (800–999)	2.25	13	49 (22–93)
Poisoning by drugs, medicinals and biological substances (960–979)	0.25	0.5	134 (3–745)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	1.75	5	385 (155–792)
Tuberculosis (010–018)	0	0	0.0 (0–1,296)
11. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (630–676)	1.25	2.9	1,021 (331–2,382)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	1	17	89 (24–227)
Diabetes mellitus (250)	0.75	16	109 (22–318)
Disorders of thyroid gland (240–246)	0	0	0 (0–2,484)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	0.75	3.0	44 (9–129)
Inflammatory diseases of the central nervous system (320–326)	0	0	0 (0–1,078)
Multiple sclerosis (340)	0	0	0 (0–190)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	0.75	9.8	191 (39–558)
Nephritis, nephrotic syndrome and nephrosis (580–589)	0	0	0 (0–586)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	0.75	2.1	160 (33–468)
14. CONGENITAL ANOMALIES (740–759)	0.5	1.2	103 (12–371)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	0.25	2.9	123 (3–684)
5. MENTAL DISORDERS (290–319)	0.25	2.9	57 (1–315)
Senile and presenile organic psychotic conditions (290)	0	0	0.0 (0–767)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0	0	0.0 (0–2,312)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	0	0	0.0 (0–722)

Chinese/Hong Kong/Taiwan-born

As shown in **Table 12(a)**, deaths were mostly in the 45–74 age group in Chinese men, though death rates were highest in the older age groups. The high number of deaths over 75 years in Chinese women reflects the substantial population in the age group (Appendix 3). The number of deaths (and death rates) were higher in men than women (**Tables 12(a)**, **12(b)**). The SMR was lower in Chinese men and women, compared to the population average, in virtually every age group.

Table 12(a): Age-specific mortality for males born in Hong Kong/China/Taiwan (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	3	65	75 (40–127)
20–44 years of age	20	80	64 (51–79)
45–64 years of age	92	934	75 (68–83)
65–74 years of age	67	5,658	94 (83–106)
75+ years of age	34	11,260	75 (63–89)
All ages	218	919	79 (74–84)

Table 12(b): Age-specific mortality for females born in Hong Kong/China/Taiwan (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	1	10	42 (11–108)
20–44 years of age	18	66	103 (80–129)
45–64 years of age	51	608	77 (67–88)
65–74 years of age	56	3,302	92 (81–105)
75+ years of age	75	10,496	92 (82–103)
All ages	201	1,001	88 (82–94)

In Chinese men and women (**Tables 13(a)** and **(b)**, neoplasms were the top ranking cause of death (lung cancer being in the commonest single cancer in men, and breast cancer in women), with circulatory diseases second. In men, the commonest circulatory disease was ischaemic heart disease, but in women it was cerebrovascular disease. Injury and poisoning was the third ranking cause of death. In both men and women, infections, though an uncommon cause of death, were relatively common, with high SMRs, including for tuberculosis. SMRs for some specific causes were very high, e.g. for liver cancer, naso-pharyngeal cancer and lip/oral/pharynx cancer (**Tables 13(a)** and **(b)**).

Caribbean-born

As shown in **Tables 14(a)** and **(b)**, most deaths occurred in the 45–64 age group, but the death rates were higher in older age groups and in men at each band.

The SMR for men overall shows mortality rates similar to the population average, though the SMR was substantially higher in the age group 20–44 years and substantially lower in those over 75 years. In women, the overall SMR was higher than the population average for women, with a substantial excess in the age groups 20–44 and 45–64.

Table 13(a): Ranked causes of mortality: Chinese born men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
ALL CANCERS (140–239)	57	252	96 (84–110)
Liver cancer (155)	8	32	1,004 (691–1,410)
Colorectal cancer (153, 154)	7	32	106 (71–154)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	6	18	493 (312–739)
Malignant neoplasm of nasopharynx (147)	5	15	4,376 (2,674–6,759)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	5	19	102 (63–158)
Lung cancer (162)	15	71	77 (59–100)
Stomach cancer (151)	3	15	79 (41–137)
Oesophageal cancer (150)	1.75	6.8	62 (25–128)
Prostate cancer (185)	1.5	8.9	45 (16–97)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	49	246	61 (53–70)
Ischaemic heart disease (410–414)	27	128	44 (36–54)
Cerebrovascular disease (430–438)	14	71	129 (98–167)
Diseases of arteries, arterioles and capillaries (440–448)	3.5	20	86 (47–144)
Hypertensive disease (401–405)	1.75	7.9	160 (68–347)
Chronic rheumatic heart disease (393–398)	0.5	2.5	110 (13–397)
17. INJURY AND POISONING (800–999)	14	14	74 (56–95)
Poisoning by drugs, medicinals and biological substances (960–979)	0.25	1	94 (2–523)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	8	35	133 (91–188)
Cirrhosis (571)	3.25	13	130 (69–222)
Diseases of oesophagus, stomach and duodenum (530–537)	1.75	8.6	133 (54–275)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	7.5	39	59 (40–84)
Chronic obstructive pulmonary disease and allied conditions (490–496)	5	27	58 (35–89)
Pneumonia and influenza (480–487)	1.25	5.3	45 (15–105)
Infectious/parasitic (001–139)	4.5	17.8	377 (224–596)
TB (010–018)	1	4.3	377 (103–966)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	4.25	15	87 (46–148)
Diabetes (250)	1.75	9	85 (34–175)
Disorders of thyroid gland (240–246)	0	0	(0–3,928)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	1.5	8.4	40 (15–88)

Table 13(a): Continued.

10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	1.25	4.8	126 (41–293)
Nephritis, nephrotic syndrome and nephrosis (580–589)	1.25	4.8	244 (79–569)
Diseases of male genital organs (600–608)	0	0	(0–732)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	0.75	1.7	151 (31–440)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	0.5	2.1	94 (11–340)
5. MENTAL DISORDERS (290–319)	0.5	1.8	32 (4–114)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	0.25	0.8	45 (1–248)
14. CONGENITAL ANOMALIES (740–759)	0.25	0.6	32 (1–178)
Senile and presenile organic psychotic conditions (290)	0	0	(0–197)
Inflammatory diseases of the central nervous system (320–326)	0	0	(0–584)
Multiple sclerosis (340)	0	0	(0–205)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0	0	(0–1,013)

Table 13(b): Ranked causes of mortality: Chinese-born women Hong Kong/Taiwan.

Mortality by cause of death (First number is ICD-9 chapter codes) for 20–74 year olds	**Average number of deaths per year**	**Average directly age-standardised death rate per 100,000 per year**	**SMR (95% CI)**
ALL CANCERS (140–239)	42	185	88 (75–102)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	3.5	15	110 (60–185)
Lung cancer (162)	3.25	15	41 (22–71)
Stomach cancer (151)	3	13	223 (119–381)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	2.5	7.7	581 (279–1,068)
Cervical cancer (180)	2.5	9	116 (56–213)
Breast cancer (174)	7	28	60 (40–86)
Colorectal cancer (153, 154)	5	27	113 (69–174)
Malignant neoplasm of nasopharynx (147)	2.25	6	4,300 (1,966–8,162)
Liver cancer (155)	1	3.4	242 (66–620)
Oesophageal cancer (150)	0.75	4.5	74 (15–216)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	25	136	70 (57–85)
Cerebrovascular disease (430–438)	12	62	135 (100–179)
Ischaemic heart disease (410–414)	9	53	43 (30–60)
Hypertensive disease (401–405)	0.75	4.6	116 (24–339)
Diseases of arteries, arterioles and capillaries (440–448)	0.75	3.7	49 (10–144)
Chronic rheumatic heart disease (393–398)	0.5	5.1	124 (45–325)

Table 13(b): Continued.

Mortality by cause of death (First number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
17. INJURY AND POISONING (800–999)	11	11	184 (133–247)
Poisoning by drugs, medicinals and biological substances (960–979)	0.75	2.8	428 (88–1,251)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	4	22	53 (30–86)
Chronic obstructive pulmonary disease and allied conditions (490–496)	2.25	12	44 (20–83)
Pneumonia and influenza (480–487)	1.5	8.4	85 (31–184)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	2.5	15	110 (53–202)
Diabetes mellitus (250)	2	11	126 (54–249)
Disorders of thyroid gland (240–246)	0.25	1.7	276 (7–1,537)
1. INFECTIOUS/PARASITIC (001–139)	1.75	7.2	248 (100–511)
TB (010–018)	0.5	2.8	384 (47–1,388)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	1.75	9	41 (17–85)
Diseases of oesophagus, stomach and duodenum (530–537)	1	6.0	133 (36–340)
Cirrhosis (571)	0.5	2.3	32 (4–116)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	1.5	6.3	144 (53–312)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	1	6.3	120 (33–307)
Nephritis, nephrotic syndrome and nephrosis (580–589)	0.25	1.7	71 (2–395)

Table 14(a): Age-specific mortality for males born in Caribbean (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	0.5	39	27 (3–96)
20–44 years of age	63	180	144 (126–162)
45–64 years of age	752	1,273	99 (95–102)
65–74 years of age	296	5,879	97 (91–102)
75+ years of age	86	11,520	79 (71–87)
All ages	1,200	1,062	98 (95–101)

Table 14(b): Age-specific mortality for females born in Caribbean (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	1	32	80 (22–206)
20–44 years of age	54		
	94	148 (129–169)	
45–64 years of age	442	896	116 (110–121)
65–74 years of age	170	3,793	108 (100–116)
75+ years of age	129	10,744	95 (87–103)
All ages	798	1,147	111 (108–115)

Tables 15(a) and **(b)** show that in both Afro-Caribbean men and women, circulatory disease, neoplasms and endocrine diseases (mainly diabetes) were dominant causes of death. It is worth emphasising that ischaemic heart disease (IHD), which has a low SMR, is the commonest of the circulatory diseases in Caribbean-born men, particularly as this disease may be overlooked in favour of stroke, which has a high SMR. In a similar vein, the low SMR for cancer, including for lung and breast cancer, must not obscure their importance as common causes of death. Endocrine diseases, mainly diabetes, were exceptionally common, with extremely high SMRs in men and women.

The infrequency of deaths from respiratory disease (in absolute and relative terms, especially in women) is notable (**Tables 15(a)** and **(b)**). High SMRs were particularly notable for hypertensive heart disease and stroke, liver cancer, prostate cancer, tuberculosis, nephritis and deaths from symptoms/ill-defined conditions.

West and South African-born

Tables 16(a) and **(b)** shows that in men and women most deaths were in the 45–64 age group, but with the usual pattern of rising mortality rates with age. Relative to the whole population of men, the mortality rate was high, especially in the younger age groups.

For women, too, most deaths were in the 45–64 age group, and the number of deaths and death rates was lower than in men. The SMR shows death rates higher than the population as a whole in those aged up to 64 years, and lower thereafter.

The disease pattern in men and women was different, as shown in **Tables 17(a)** and **17(b)**. In men, the usual pattern was observed, with circulatory diseases and neoplasms dominant, though IHD had a low SMR. Hypertensive disease and cerebrovascular disease were both common, and had very high SMRs. Injuries and respiratory disease were major killers. Diabetes was relatively common. The high SMRs for liver cancer, infections, symptoms and ill-defined conditions and genito-urinary disorders were noteworthy.

In women, the number of deaths were small but, nonetheless, neoplasms dominated (breast cancer being the commonest) over circulatory diseases. Ischaemic heart disease comprised a small fraction of circulatory deaths and was relatively uncommon, being exceeded by cerebrovascular deaths. Although the SMRs were high for several specific conditions, the number of cases was too low for accurate interpretation (**Tables 17(a)** and **17(b)**).

Table 15(a): Ranked causes of mortality: Caribbean-born men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	427	358	95 (90–99)
Chronic rheumatic heart disease (393–398)	1.5	1.3	59 (22–129)
Hypertensive disease (401–405)	27	23	471 (386–568)
Ischaemic heart disease (410–414)	210	172	62 (58–67)
Cerebrovascular disease (430–438)	126	108	205 (188–224)
Diseases of arteries, arterioles and capillaries (440–448)	19	15	81 (64–101)
2. NEOPLASMS (140–239)	295	239	89 (84–94)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	5.25	3.4	83 (51–126)
Malignant neoplasm of nasopharynx (147)	1.25	0.9	236 (77–551)
Malignant neoplasm of oesophagus (150)	11	8.0	66 (48–89)
Stomach cancer (151)	26	20	118 (96–142)
Colorectal cancer (153/154)	21	18	56 (44–69)
Liver cancer (155)	15	13	328 (250–423)
Lung cancer (162)	66	51	59 (52–67)
Prostate cancer (185)	37.5	36	188 (159–221)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	38	30	162 (137–190)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	61	54	375 (329–425)
Diabetes mellitus (250)	50	44	439 (380–504)
Disorders of thyroid gland (240–246)	0.25	0.3	203 (5–1,131)
17. INJURY AND POISONING (800–999)	59	65	128 (112–145)
Poisoning by drugs, medicinals and biological substances (960–979)	3	3.6	471 (243–822)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	43	36	61 (52–70)
Pneumonia and influenza (480–487)	16	13	116 (89–149)
Chronic obstructive pulmonary disease and allied conditions (490–496)	22	19	44 (36–55)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	39	32	128 (109–150)
Diseases of oesophagus, stomach and duodenum (530–537)	7.5	5.9	103 (69–147)
Cirrhosis (571)	14	9	147 (114–186)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	16	14	100 (77–127)
Inflammatory diseases of the central nervous system (320–326)	2.25	2.1	369 (169–700)
Multiple sclerosis (340)	0.25	0.4	12 (0–68)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	14.75	13	297 (226–383)
Tuberculosis (010–018)	4.5	3.8	387 (237–598)

Table 15(a): Continued.

16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	9.25	9.9	542 (381–747)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	9	8.3	170 (119–235)
Nephritis, nephrotic syndrome and nephrosis (580–589)	6	5.9	220 (141–327)
Diseases of male genital organs (600–608)	0.5	0.3	70 (8–251)
5. MENTAL DISORDERS (290–319)	5.75	5.3	99 (63–149)
Senile and presenile organic psychotic conditions (290)	2	2.5	75 (32,147)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	5.25	4.8	207 (128–317)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	2.75	2.1	90 (45–162)
14. CONGENITAL ANOMALIES (740–759)	2.25	2.5	93 (42–176)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	1	1	221 (60–566)

Table 15(b): Ranked causes of mortality: Caribbean-born women.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	**Average number of deaths per year**	**Average directly age-standardised death rate per 100,000 per year**	**SMR (95% CI)**
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	217	246	137 (128–146)
Chronic rheumatic heart disease (393–398)	2	2.2	47 (20–93)
Hypertensive disease (401–405)	22	23	748 (601–921)
Ischaemic heart disease (410–414)	83	95	86 (77–96)
Cerebrovascular disease (430–438)	76	88	197 (175–220)
Diseases of arteries, arterioles and capillaries (440–448)	7.5	8.1	117 (79–166)
2. NEOPLASMS (140–239)	209	195	91 (85–98)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	1.25	0.9	59 (19–139)
Malignant neoplasm of nasopharynx (147)	0	0	0 (0–390)
Malignant neoplasm of oesophagus (150)	5	5.4	101 (62–156)
Stomach cancer (151)	10	8	148 (106–202)
Colorectal cancer (153/154)	16	15	73 (56–93)
Liver cancer (155)	4.25	3.5	216 (126–346)
Lung cancer (162)	16	15	41 (32–53)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	28	26	201 (165–242)
Malignant neoplasm of cervix uteri (180)	10	9.4	116 (83–158)
Malignant neoplasm of female breast (174)	61	54	104 (91–117)

Table 15(b): Continued.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	56	64	569 (496–648)
Diabetes mellitus (250)	50	59	697 (603–801)
Disorders of thyroid gland (240–246)	0.5	0.5	122 (15–442)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	20	19	101 (80–127)
Diseases of oesophagus, stomach and duodenum (530–537)	1	1.2	30 (8–77)
Cirrhosis	6.75	20	103 (81–128)
Poisoning by drugs, medicinals and biological substances (960–979)	1	0.7	193 (53–494)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	19	19	57 (45–71)
Pneumonia and influenza (480–487)	6	6.2	82 (53–123)
Chronic obstructive pulmonary disease and allied conditions (490–496)	11	11	47 (34–63)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	12	12	104 (76–137)
Inflammatory diseases of the central nervous system (320–326)	1	1.2	205 (56–525
Multiple sclerosis (340)	0.5	0.5	16 (2–59)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	9.5	9	330 (233–453)
Tuberculosis (010–018)	1.5	1.8	269 (55–585)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	9	9.6	246 (171–342
Nephritis, nephrotic syndrome and nephrosis (580–589)	5.75	5.9	385 (244–577)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	5	3.5	110 (67–169)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	4.5	3.4	280 (166,443)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	2.75	1.9	400 (200–716)
5. MENTAL DISORDERS (290–319)	2.5	3.7	70 (34–129)
Senile and presenile organic psychotic conditions (290)	1.25	2	65 (21–152)
14. CONGENITAL ANOMALIES (740–759)	1.75	1.5	84 (34–173)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	1	1.1	244 (66–624)
11. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (630–676)	0.5	0.3	205 (25–740)

Table 16(a): Age-specific mortality for males born in West and South Africa (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	7	90	118 (77–172)
20–44 years of age	45	144	112 (96–129)
45–64 years of age	103	1,457	114 (103–125)
65–74 years of age	30	6,324	106 (88–126)
75+ years of age	11	10,507	70 (51–93)
All ages	198	1,116	108 (101–116)

Table 16(b): Age-specific mortality for females born in West and South Africa (1989–92).

Mortality by age group	Average number of deaths/yr	Directly age-standardised rate/100,000/yr	SMR (95% CI)
Under 20 years of age	5	68	151 (94–231)
20–44 years of age	31	93	135 (112–160)
45–64 years of age	44	930	121 (104–140)
65–74 years of age	11	2,976	83 (61–111)
75+ years of age	10	5,909	51 (36–71)
All ages	102	849	107 (97–117)

Table 17(a): Ranked causes of mortality: West and South African men.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	65	429	113 (100–128)
Chronic rheumatic heart disease (393–398)	0.75	1.2	221 (45–644)
Hypertensive disease (401–405)	5.75	34	764 (484–1,146)
Ischaemic heart disease (410–414)	25	165	58 (47–70)
Cerebrovascular disease (430–438)	20	139	261 (207–325)
Diseases of arteries, arterioles and capillaries (440–448)	2.25	26	88 (40–167)
2. NEOPLASMS (140–239)	46.5	267	106 (92–123)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	0.75	5.5	78 (16–227)
Malignant neoplasm of nasopharynx (147)	0.25	1.0	241 (6–1,344)
Malignant neoplasm of oesophagus (150)	1.25	8.2	47 (15–110)
Colorectal cancer (153/154)	2.75	18	58 (29–103)
Liver cancer (155)	7	23	1,097 (729–1,586)
Lung cancer (162)	7.75	60	61 (41–86)
Prostate cancer (185)	4.25	37	219 (128–351)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	7.75	31	182 (125–258)

Table 17(a): Continued.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
17. INJURY AND POISONING (800–999)	18	40	82 (65–103)
Poisoning by drugs, medicinals and biological substances (960–979)	1	2.2	256 (70–657)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	10.25	60	118 (85–160)
Pneumonia and influenza (480–487)	5.5	22	240 (150–363)
Chronic obstructive pulmonary disease and allied conditions (490–496)	4	33	73 (42–119)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	6.5	39	185 (121–271)
Diabetes mellitus (250)	4.5	34	297 (176–469)
Disorders of thyroid gland (240–246)	0	0	0.0 (0–5,313)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	5.75	28	111 (70–167)
Diseases of oesophagus, stomach and duodenum (530–537)	1.5	9	159 (58–345)
Cirrhosis (571)	2.5	13	101 (48–185)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	5.25	20	449 (278–686)
Tuberculosis (010–018)	0.75	5.3	327 (67–956)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	3.25	14	96 (51–165)
Inflammatory diseases of the central nervous system (320–326)	0.5	1.0	319 (39–1,152)
Multiple sclerosis (340)	0	0	0 (0–206)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	3	16	554 (286–967)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	2.25	10	312 (143–593)
Nephritis, nephrotic syndrome and nephrosis (580–589)	1.5	6.7	393 (144–855)
Diseases of male genital organs (600–608)	0.75	3.2	1,024 (211–2,991)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	1.5	5	354 (130–769)
5. MENTAL DISORDERS (290–319)	1	8.4	67 (18–171)
Senile and presenile organic psychotic conditions (290)	0.25	3.7	97 (2–538)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0	0	0 (0–1,286)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	0	0	0 (0–227)
14. CONGENITAL ANOMALIES (740–759)	0	0	0 (0–110)

Table 17(b): Ranked causes of mortality: West and South African women.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
2. NEOPLASMS (140–239)	34	230	111 (93–131)
Malignant neoplasm of lip, oral cavity and pharynx (140–149)	0.25	1.7	61 (41–86)
Malignant neoplasm of nasopharynx (147)	0.25	<1	543 (14–3,026)
Oesophageal cancer (150)	0.5	3.4	61 (20–142)
Stomach cancer (151)	1.25	4.7	164 (53–384)
Colorectal cancer (153/154)	1.75	17	73 (29–151)
Liver cancer (155)	1.75	15	679 (273–1,398)
Malignant neoplasm of trachea, bronchus and lung (162)	1.75	20	46 (18–94)
Malignant neoplasm of lymphatic and haematopoietic tissue (200–208)	3.75	28	163 (71–269)
Malignant neoplasm of cervix uteri (180)	0.75	3.1	35 (7–102)
Malignant neoplasm of female breast (174)	11.75	67	129 (95–171)
7. DISEASES OF THE CIRCULATORY SYSTEM (390–459)	23	220	148 (119–181)
Chronic rheumatic heart disease (393–398)	1.25	4.8	290 (94–676)
Hypertensive disease (401–405)	2.25	12	780 (357–1,481)
Ischaemic heart disease (410–414)	5.25	88	61 (37–94)
Cerebrovascular disease (430–438)	7	50	162 (107–234)
Diseases of arteries, arterioles and capillaries (440–448)	1	11	162 (44–414)
17. INJURY AND POISONING (800–999)	7.5	18	115 (77–64)
Poisoning by drugs, medicinals and biological substances (960–979)	1	1.9	337 (92–864)
3. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES, AND IMMUNITY DISORDERS (240–279)	3.5	18	253 (138–424)
Diabetes mellitus (250)	1.25	15	156 (51–364)
Disorders of thyroid gland (240–246)	0.25	0.6	577 (13–3,214)
9. DISEASES OF THE DIGESTIVE SYSTEM (520–579)	2.75	26	98 (49–175)
Diseases of oesophagus, stomach and duodenum (530–537)	0	0	0 (0–253)
Cirrhosis	1.25	6.5	94 (30–218)
4. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS (280–289)	2	4.7	778 (336–1,533)
8. DISEASES OF THE RESPIRATORY SYSTEM (460–519)	1.75	17	49 (20–101)
Pneumonia and influenza (480–487)	0.5	0.8	240 (150–363)
Chronic obstructive pulmonary disease and allied conditions (490–496)	1.25	16	55 (18–128)
1. INFECTIOUS AND PARASITIC DISEASES (001–139)	1.5	5.4	261 (96–567)
Tuberculosis (010–018)	0	0	0 (0–1,011)

Table 17(b): Continued.

Mortality by cause of death (first number is ICD-9 chapter codes) for 20–74 year olds	Average number of deaths per year	Average directly age-standardised death rate per 100,000 per year	SMR (95% CI)
10. DISEASES OF THE GENITO-URINARY SYSTEM (580–629)	1.5	11	310 (114–674)
Nephritis, nephrotic syndrome and nephrosis (580–589)	0.75	7	390 (80–1,139)
6. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320–389)	1	1.9	46 (12–117)
Inflammatory diseases of the central nervous system (320–326)	0	0	0.0 (0–830)
Multiple sclerosis (340)	0	0	0.0 (0–206)
16. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS (780–799)	1	8.8	552 (150–1,414)
11. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (630–676)	0.75	0.5	339 (70–991)
13. DISEASES OF THE MUSCULO-SKELETAL SYSTEM AND CONNECTIVE TISSUE (710–739)	0.5	2.1	88 (11–317)
14. CONGENITAL ANOMALIES (740–759)	0.25	0.3	37 (1–205)
5. MENTAL DISORDERS (290–319)	0	0	0.0 (0–153)
Senile and presenile organic psychotic conditions (290)	0	0	0.0 (0–635)
12. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680–709)	0	0	0.0 (0–1,882)

A note on 'South Asians' and the inclusion of 'East Africans'

A common practice over the last 15 years is the combination of Indians, Pakistanis, Bangladeshis, and sometimes Sri Lankans and East Africans too, into one category, 'South Asians'. As the above tables show, there are similarities and dissimilarities in mortality. Overall, it is probably wise to recognise the substantial heterogeneity in these populations' health needs, even though the study of the separate groups poses additional challenges of smaller population size, and fewer deaths.

We have examined the data for Indians, Pakistanis, Bangladeshis and Sri Lankans as a single group of 'South Asians' together and East Africans separately. The data are not presented here, but we conclude that study of such a South Asian group is reasonable for diabetes, but not for several other causes.

Mortality by ethnic group – the Longitudinal Study

One per cent of the enumerated 1991 census population of England and Wales was identified for the Longitudinal Study (LS) (http://www.statistics.gov.uk/services/longitudinal.asp). Table 18 shows the numbers of Indians, Pakistanis, Bangladeshis, Chinese, Black-Caribbeans, Black-Africans and Whites in the longitudinal study (for this chapter, and analysis, the categories 'black other',' other Asian' and 'other' are excluded). These populations are 'flagged' and traced at the NHS Central Register, from where mortality data are obtained. **Table 18** shows that the population size for the ethnic minority groups is small, especially for Bangladeshi, Chinese and Black African populations. The patterns are likely to be least reliable for them.

Table 18: Population enrolled into the Longitudinal Study by ethnic group from the 1991 census.

	Indian	Pakistani	Bangladeshi	Chinese	Black-Caribbean	Black-African	White
Total	10,450	5,742	2,176	1,521	4,996	1,936	482,189

Source: ONS Longitudinal Study (http://www.statistics.gov.uk/services/longitudinal.asp)

Table 19 ranks the causes, giving numbers of deaths defined by ICD chapter. **Table 19** shows that circulatory diseases were the top ranking cause of death with the exception of Black-Caribbeans, in whom this place was taken by neoplasms.

Table 19: Longitudinal Study: numbers of deaths after 1991 (traced at NHSCR) by ethnic group in approximate rank order* of ICD Chapters.

Underlying cause of death (ICD-9) – broad chapter	Indian	Pakistani	Bangladeshi	Chinese	Black-Caribbean	Black-African	White
Circulatory diseases (ICD-9 = 390–459)	110	42	14	11	56	11	15,953
Neoplasms (ICD-9 = 140–239)	40	22	3	7	65	8	9,931
Respiratory diseases (ICD-9 = 460–519)	39	2	2	7	12	6	5,521
Diseases of digestive system (ICD-9 = 520–579)	21	1	1	1	6	1	1,245
Endocrine, etc. (ICD-9 = 240–279)	19	6	1	–	6	1	502
Infectious and parasitic diseases (ICD-9 = 000–139)	11	1	–	–	4	2	166
Injuries and poisoning (ICD-9 = 800–999)	9	7	1	2	8	–	914
Disease of the nervous system (ICD-9 = 320–389)	4	2	1	2	2	1	639
Genito-urinary diseases (ICD-9 = 580–629)	3	1	–	–	1	1	367
Diseases of the musculo-skeletal system (ICD-9 = 710–739)	1	2	1	–	–	1	247
Ill-defined symptoms (ICD-9 = 780–799)	1	–	–	–	–	–	516
Diseases of blood (ICD-9 = 280–289)	–	–	–	–	1	–	135
Mental disorders (ICD-9 = 290–319)	–	1	–	–	2	–	609
Complications of childbirth (ICD-9 = 630–676)	–	–	1	–	–	–	2
Skin diseases (ICD-9 = 680–709)	–	–	–	–	–	1	66
Congenital anomalies (ICD-9 = 740–759)	–	2	1	–	1	–	65
Conditions originating in perinatal period (760–779)	–	–	–	–	–	–	–

* This ranking is based on rank order in Indians – other groups differ slightly as noted in the text.
Source: ONS Longitudinal Study (http://www.statistics.gov.uk/services/longitudinal.asp)

Table 20 gives the numbers for a small number of specific causes and confirms the burden placed by the specific causes of ischaemic heart disease, stroke, diabetes and the two common cancers. The number of deaths is too low to permit valid sex- and age-specific rates, and hence age-sex adjusted rates, to be calculated. In view of the substantial differences in population structure, rates unadjusted for age and sex would be potentially misleading. The important point is that the ranking of causes of death, as summarised in **Table 20**, is similar to that arising from country of birth analysis. This gives confidence in undertaking health needs assessment for adults based on the data in **Tables 6–17**.

Table 20: Longitudinal Study: some selected causes of death.

Selected cause of death (ICD-9)	Indian	Pakistani	Bangladeshi	Chinese	Black-Caribbean	Black-African	White
Ischaemic heart disease (ICD-9 = 410–414)	70	29	8	6	26	3	8,755
Cerebrovascular disease (ICD-9 = 430–438)	26	9	5	2	15	6	4,085
Diabetes mellitus (ICD-9 = 250)	18	5	1	–	5	–	390
Malignant neoplasm of the trachea, bronchus and lung (ICD = 162)	6	4	2	2	7	–	2,231
Malignant neoplasm of breast (ICD = 174)	5	1	–	–	3	–	829

Source: ONS Longitudinal Study (http://www.statistics.gov.uk/services/longitudinal.asp)

Lifestyle, measures of health and self-reported health

Table 21 summarises the studies from which the data have been extracted. The general findings are summarised below. In comparing different groups, the reader needs to remember that different methods of sampling and questioning in different languages makes precise comparisons between ethnic groups difficult. **Tables 22–27** summarise key data on lifestyles, biochemical measures, anthropometric measures, and self-reported and self-assessed health in six ethnic groups. These data are a sample of the extensive information available. Readers are advised to read the original source to understand the method before utilising the data.

The paucity of research on racism in health is discussed by Bhopal,[7,96] though it is acknowledged as a factor in terms of housing[97] and education.[98] One study from the US found an association between racial discrimination and hypertension,[99] possibly operating via the 'psychosocial pathway'.[100]

Indians

Indians are extremely heterogeneous, so findings are likely to differ in different places, and communities. In particular, religion has an important effect. For example, smoking is much less common in Sikhs than Hindus. The reverse applies to drinking alcohol. That said, the data in **Table 22** show that there are substantial needs in relation to smoking, alcohol and lack of physical activity. In women, the cultural taboo against smoking is holding, for the present.

Lipid profiles in Indians change dramatically after immigration, moving from very low levels towards the high levels of cholesterol in the white population.[101] Vigorous action to alter lipid profiles is warranted.

Table 21: Basic information on sources of data for Tables 22–27.

Study	Date of survey and publication	Age-groups and sample size	Sampling and ethnic classification
Rudat 1994[86]	Survey: 1992 Published: 1994	16–74 3,317 people, mainly in England	Mainly from EDs in England with >10% of population from ethnic minority groups. Population classified on self-report as Indian, Pakistani, Bangladeshi and African-Caribbean.
Nazroo 1997[84]	Survey: 1993/94 Published: 1997	16-plus 8,063 people in England and Wales	Sample from wide range of areas with low ethnicity minority concentrations and high. Ethnic codes based on family origins (groups were White, Caribbean, Indian, African Asian, Pakistani, Bangladeshi, Chinese).
Sproston 1997[87]	Survey: – Published: 1999	16–74 1,022 people in England	Name search using the electoral register. Chinese only.
HEA 2000[88]	Survey: – Published: 2000	16–74 4,452 people in England	EDs where >10% of population was from one of the ethnic groups under study. Personal definition of own ethnicity, categorised into four groups – African-Caribbean, Indian, Pakistani, Bangladeshi.
Bhopal 1999[93]	Survey: 1995–97 Published: 1999	25–74 1,509 people in Newcastle Upon Tyne	Stratified, random samples from Family Health Services Authority Register, categorised as Indian, Pakistani, Bangladeshi and European on basis of name, birthplace of grandparents and self-report.
Harland 1997[94]	Survey: 1991–93 Published: 1997	25–64 1,005 people in Newcastle Upon Tyne	All Chinese resident in the city identified by name search of Family Health Services Register, or recruited via publicity. Europeans identified from FHSA Register as described.
Cappuccio 1998[95]	Survey: 1994–96 Published: 1998	40–59 1,577 people	Name search of lists of 25 general practices, and for Afro-Caribbean, contact with practice staff. Population categorised as White, African origin or South Asian.

Table 22: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Indian men and women.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Lifestyle factor							
Smoking	current regular smoker (%)	HEA 1994	440	527	20	1	Smoking has decreased in men, but is common, and it has increased slightly in women – most male smokers are over 30, whereas most female are under 30.
		HEA 2000	598	463	15	2	
Alcohol	current drinker (%)	Nazroo	637	66		18	Higher than other South Asian groups but lower than the White population (especially females). Among Indians, Sikhs have higher prevalence than other religious groups.
Physical activity	takes vigorous exercise >20 mins at least 3/week (%)	HEA 2000	290	488	35	17	Fewer older people take such exercise compared with younger people.
Biochemical measure							
Cholesterol	mean (mmol/l)	Bhopal 1999	105	154	5.8	5.4	These values are high, particularly as values in India are very low.
HDL	mean (mmol/l)	Bhopal 1999	105	154	1.3	1.4	A higher level is desirable.
Triglycerides	mean (mmol/l)	Bhopal 1999	105	154	1.7	1.4	Comparatively high, but lower than in Pakistanis and Bangladeshis.
Physical measure							
Waist	mean (cm)	HEA 2000	598	463	88.2	80.5	Waist size is large, though smaller than other South Asian groups.
Height	mean (cm)	HEA 2000	598	463	170.1	156.1	Shorter than the White population, taller than Bangladeshis and Pakistanis.
Weight	mean (kg)	HEA 2000	598	463	71.3	62.6	Weight is high in relation to height.
Waist/hip ratio	mean	HEA 2000	598	463	0.91	0.80	Smallest ratios of the South Asian groups.
BMI	mean	HEA 2000	598	463	24.6	25.6	Mean value is high, particularly in relation to comparable figures from India.
Blood pressure	av. Systolic	Bhopal 1999	105	154	124	123	Higher than other South Asian groups, and comparable to the White population.
	av. Diastolic (mmHg)				72	68	

Table 22: Continued

Self-reported health status						
Hypertension	Self-reported (%)	Nazroo 1997	1,267	10	6	Hypertension is common. Female values lower than all South Asian groups and the White population.
Diabetes	Self-reported (%)	Nazroo 1997	1,273	5.5*	5.5*	Diabetes is extremely common, though lower than other South Asians, but far higher than the White population.
Angina/MI	Self-reported (%)	Nazroo 1997	1,270	4.8	2.7	Lower than South Asians and the White population, a surprising finding that needs cautious interpretation.
Mental health	Lacking energy or problem sleeping (%) Anxiety (%) Life not worth living (%)	Nazroo 1997 (a) and (b) (mental health)	638	28 8 1.9	35 11 2.9	Mental health problems are common. Generally better than Pakistanis and the White population but not as good as Bangladeshis.
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997	1,273	27	32	The prevalences are high, though Indians were less likely to report fair/poor health etc. than other South Asian groups and the White population.

* Men and women combined – sex-specific data not given.

Indians are relatively short and obesity (particularly central) is common. Indians born in the UK are growing taller than their parents. Blood pressures vary in different Indian communities, with the best judgement being that levels are similar to the white population – i.e. hypertension is a common disorder.

Diabetes and the associated syndrome of insulin resistance are exceptionally common in men and women. The presence of cardiovascular symptoms is high, and in some studies reflects mortality data.

Mental health problems are present in a substantial proportion of the population.

These data, together with the mortality patterns and other findings in the research literature, show that Indians present health needs that are similar to the population as a whole. Special emphasis is needed to sustain the low prevalence of smoking in women, and vigorous control of all the risk factors for diabetes and cardiovascular diseases.

Pakistanis

Pakistanis are mainly Muslims, whose religion impacts in ways important to health. Although heterogeneity between Pakistani communities should not be overlooked, this is less than in Indians. As with Indians, there are substantial needs in relation to smoking (men) and in promotion of physical activity (**Table 23**). Few people drink alcohol, though the taboo against it may lead to underreporting. Those Pakistanis who do drink may have special difficulties due to social problems arising from admitting to an alcohol problem.

The comments above on lipids and physical measures of health including obesity in Indians, apply with even greater force in Pakistanis, whose rates of heart disease and diabetes are slightly higher than in Indians. The reduction of cardiovascular and diabetes risk factors is the prime health need in Pakistani adults. The indicators of mental health status suggest major needs, as does the high prevalence of self-reporting poor health/longstanding illness.

Overall, these data, combined with the knowledge that Pakistanis are relatively poor, indicate an especial challenge in meeting the health needs of this population.

Bangladeshi

Of the South Asian populations in the UK, the Bangladeshis are the most homogeneous, having in common a single major religion, Islam, and origins from a small country, Bangladesh, and within that many Bangladeshis come from Sylhet. **Table 24** shows that smoking prevalence in Bangladeshi men is exceptionally high, making this the priority public health issue. Although the prevalence of smoking is relatively low in Bangladeshi women, tobacco chewing (with betel nut or paan) is a common practice, and much more so than in Indian or Pakistani women.

The points made on alcohol use in Pakistanis apply to Bangladeshis, too. The exceptionally low rates of physical activity (a major issue) need to be interpreted in the knowledge that most men are in manual occupations.

Lipid patterns in Bangladeshis are problematic, with the apparently low total cholesterol being a result of very low HDL cholesterol. This, together with high triglycerides, signifies a need for dietary advice and change.

Bangladeshis are very short, a reflection of poor nutrition in childhood. In comparison with other ethnic groups, Bangladeshis have less obesity and a lower mean blood pressure. This should not lead to complacency, for their risk of developing cardiovascular disease and diabetes is the highest of all the ethnic groups considered here. It may be that cardiovascular risk is triggered at a lower threshold than in other ethnic groups.

Self-reported health problems are common, though surprisingly, the prevalence of mental health problems is comparatively low. This may simply reflect difficulties of translating questions in comparable ways, or it may arise from social and cultural factors yet to be studied. As Bangladeshis are the poorest of the ethnic minority groups studied here, and the most recent immigrants, one might anticipate their mental health to be worse.

Table 23: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Pakistani men and women.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Lifestyle factor							
Smoking	current regular smoker (%)	HEA 1994	456	471	30	2	Smoking has decreased in men but is common.
		HEA 2000	627	517	24	1	
Alcohol	current drinker (%)	Nazroo	582		8	0	Very few Pakistanis drink, mainly for religious reasons. Figures may be underestimates.
Physical activity	takes vigorous exercise >20 mins at least 3/week (%)	HEA 2000	424	426	30	17	Fewer older people take such exercise compared with younger people.
Biochemical measure							
Cholesterol	mean (mmol/l)	Bhopal 1999	156	149	5.6	5.3	These values are high.
HDL	mean (mmol/l)	Bhopal 1999	156	149	1.1	1.3	The levels are undesirably low, and lower than Indians and the White population, though slightly higher than Bangladeshis.
Triglycerides	mean (mmol/l)	Bhopal 1999	156	149	1.8	1.5	Very high, and higher than Indians and the White population, but lower than Bangladeshis.
Physical measure							
Waist	mean (cm)	HEA 2000	627	517	87.6	84.3	The waist size is large, and larger than Indians and Bengalis, and in females, larger than in White females.
Height	mean (cm)	HEA 2000	627	517	170.9	157.9	This population is taller than Indians and Bangladeshis but shorter than the White population.
Weight	mean (kg)	HEA 2000	627	517	72.6	63.8	Weight is undesirably high, and greater than Indians and Bangladeshis, though lighter than the White population.
Waist/hip ratio	mean	HEA 2000	627	517	0.92	0.83	In women, the ratios are higher than Indian and White females.
BMI	mean	HEA 2000	627	517	24.9	26.1	The values are understandably high, and greater than Indians and the White population, though lower than Bangladeshis
Blood pressure	av. Systolic	Bhopal 1999	156	149	119	116	The levels are good, and lower than in Indians and the White population.
	av. Diastolic (mmHg)				71	68	

Table 23: Continued.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Self-reported health status							
Hypertension	Self-reported (%)	Nazroo 1997		1,181	6	12	Male levels lower than Indians and Bangladeshis, though, surprisingly, the rate is double that of Indian women.
Diabetes	Self-reported (%)	Nazroo 1997		1,185	7.6*	7.6*	Extremely high, and the highest of South Asian groups and over three times higher than the White population.
Angina/MI	Self-reported (%)	Nazroo 1997		1,183	6.0	3.8	Common, and higher than in Indians, though lower than Bangladeshis and the White population.
Mental health	Lacking energy or problem sleeping (%) Anxiety (%) Life not worth living (%)	Nazroo 1997 (a) and (b) (mental health)		584	31 10 2.8	41 11 3.1	The prevalences are high, and higher than Indians and Bangladeshis, and for 'life not worth living' higher than in the White population.
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997		1,185	36	39	The prevalences are high, with general health better than Bangladeshis but worse than Indians and the White population.

* Men and women combined – sex-specific data not given.

Table 24: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Bangladeshi men and women.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Lifestyle factor							
Smoking	current regular	HEA 1994	315	350	42	5	Smoking is extremely common in men. It decreased in
	smoker (%)	HEA 2000	566	603	46	6	men under 30 and increased in those over 30, whereas the opposite was true of women.
Alcohol	current drinker (%)	Nazroo	289		4	2	Very few drink, mainly for religious reasons. There may be underreporting.
Physical activity	takes vigorous exercise >20 mins at least 3/week (%)	HEA 2000	357	515	29	12	Fewer older people take such exercise compared to younger people.
Biochemical measure							
Cholesterol	mean (mmol/l)	Bhopal 1999	64	56	5.3	5.3	Lower than other South Asian and White populations, though still higher than desirable.
HDL	mean (mmol/l)	Bhopal 1999	64	56	1.0	1.2	Very low, and lower than other South Asians and the White population. Higher levels are desirable.
Triglycerides	mean (mmol/l)	Bhopal 1999	64	56	2.0	2.0	Very high, and higher than other South Asians and the White population.
Physical measure							
Waist	mean (cm)	HEA 2000	566	603	84.7	80.6	Smallest of all South Asian and White populations, but females have bigger waists than White females.
Height	mean (cm)	HEA 2000	566	603	165.3	152.6	A short population, and smallest among South Asians.
Weight	mean (kg)	HEA 2000	566	603	64.0	55.4	Lightest among South Asians.
Waist/hip ratio	mean	HEA 2000	566	603	0.92	0.85	The ratios are high, and larger than for other South Asians and the White population.
BMI	mean	HEA 2000	566	603	23.4	23.9	Though comparatively low and lowest among South Asian and White populations, a lower BMI is still desirable.
Blood pressure	av. Systolic	Bhopal 1999	64	56	112	109	Apparently satisfactory, and lowest of all South Asians
	av. Diastolic (mmHg)				68	66	and the White population, and yet CHD and stroke mortality rates are still high.

Table 24: Continued.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Self-reported health status							
Hypertension	Self-reported (%)	Nazroo 1997	589		10	11	The prevalences are high, bearing in mind mean blood pressure, with males higher than Pakistani males, and females higher than Indian females, but lower than in the White population.
Diabetes	Self-reported (%)	Nazroo 1997	591		7.4*	7.4*	Very high. Higher than Indians and the White population, similar to Pakistanis.
Angina/MI	Self-reported (%)	Nazroo 1997	590		7.6	3.7	Higher than other South Asians but lower than the White population.
Mental health	Lacking energy or problem sleeping (%) Anxiety (%) Life not worth living (%)	Nazroo 1997 (a) and (b) (mental health)	289		28 2 0.3	25 7 1.3	Though mental health problems are common, surprisingly, this population reports better mental health than other South Asian and White populations.
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997	591		36	42	These prevalences are high, and higher than other South Asian and White populations.

* Men and women combined – sex-specific data not given.

Afro-Caribbean

While Afro-Caribbeans come from a diaspora of Caribbean Islands, each with their distinctive characteristics, they have in common a language (English), and are predominantly Christian.

The need for services relating to smoking cessation, alcohol drinking and exercise uptake is clear from the data in **Table 25**. The cholesterol levels are high, but triglycerides are low. The reasons why Afro-Caribbeans have a comparatively low mortality from coronary heart disease despite their unsatisfactory risk profile is unclear. The possibilities of data artefact, or a temporal trend, need to be considered, and the view that African Americans were protected from coronary heart disease (CHD) has not been sustained.[102] An epidemic of CHD may be imminent.

Obesity is common, as in the population as a whole, and weight control is a priority in the light of the high blood pressure and high prevalence of diabetes.

Mental health problems are extremely common, especially in women, and the prevalence of suicidal thoughts is significant. The problem of poor self-assessed health and longstanding illness is an indicator of high levels of health need.

Chinese

China is a vast territory, yet it is surprisingly homogeneous, mainly as a result of its long history as a single political entity and ancient civilisation. Chinese people in Britain are either agnostic, Christian or Buddhist, and most speak Cantonese (87%).

The smoking prevalence is substantial in men, though low in women. There is a need for smoking cessation activity for men, and actions to maintain the low levels in women. The low prevalence of physical exercise is problematic.

The lipid profiles and measures of physique come from a single survey in Newcastle in the early 1990s.[94] In the absence of other data, the cautious interpretation is that the lipid profiles are favourable and Chinese people's physique is slim. This accords with the comparatively low rates of CHD mortality. The challenge for services is to maintain or improve upon this comparatively advantaged position. Mortality data show cardiovascular disease as the second commonest cause of death in Chinese. On self-report (**Table 26**), cardiovascular disease and diabetes are common. There is no room for complacency.

The prevalence of symptoms indicating mental health problems is high in Chinese (excepting suicidal thoughts).

White population

The difficulties in making comparisons have been discussed above. Nonetheless, for interest and reference, some of the comparative data are in **Table 27**. While assessing the health needs of the white population is beyond the remit of this chapter, it would be remiss not to point out that there are multiple and diverse populations captured by the term 'white', and these populations may have distinctive health needs.

A synthesis of current knowledge on the patterns of disease in ethnic minority groups

The following synthesis is based on a reading of the literature, particularly the reports summarised in **Table 27**, and examination of the data tables. Note that preliminary analysis of data collected during the first months of 1999 Health Survey for England broadly substantiate the conclusions presented below and in other sections (for further details, *see* http://www.archive.official-documents.co.uk/document/doh/survey99/hse99-00.htm).

Table 25: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Afro-Caribbean men and women.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Lifestyle factor							
Smoking	current regular smoker (%)	HEA 1994 HEA 2000	527 428	432 639	29 29	17 18	Smoking is common and has increased in those men under 30 and over 50, but only increased in those women over 30.
Alcohol	current drinker (%)	Nazroo	613		87	74	Drinking alcohol is common, and most people drink 'once a week or more'.
Physical activity	takes vigorous exercise >20 mins at least 3/week (%)	HEA 2000	282	483	32	22	Fewer older people take such exercise compared to younger people.
Biochemical measure							
Cholesterol	mean (mmol/l)	Capuccio 1998	197	303	5.5	5.7	The levels are high, though in males they are lower than in the White population, but in females they are higher.
HDL	mean (mmol/l)	Capuccio 1998	197	303	1.3	1.6	The levels are average, with males similar to the White population but females lower than the White population.
Triglycerides	mean (mmol/l)	Capuccio 1998	197	303	0.9	0.8	The levels are desirably low, and lower than the White population.
Physical measure							
Waist	mean (cm)	HEA 2000	174	193	86.6	84.2	Waist size is high in women.
Height	mean (cm)	HEA 2000	174	193	173.8	162.7	The population is tall, with males being slightly shorter than the white population, females taller.
Weight	mean (kg)	HEA 2000	174	193	76.9	73.6	Males lighter than the White population, females heavier.
Waist/hip ratio	mean	HEA 2000	174	193	0.89	0.81	Male ratios less than the White population, female similar to the White population.
BMI	mean	HEA 2000	174	193	25.5	27.5	Male ratios less than the White population, female greater than the White population, and, in the latter at least, too high.
Blood pressure	av. Systolic av. Diastolic (mmHg)	Capuccio 1998	197	303	134 88	134 85	The levels are high, and higher than in any of the other populations described here.

Table 25: Continued.

Self-reported health status						
Hypertension	Self-reported (%)	Nazroo 1997	1,195	15	23	As expected, the prevalences are very high.
Diabetes	Self-reported (%)	Nazroo 1997	1,205	5.9*	5.9*	Very high prevalence, and much higher than the White population.
Angina/MI	Self-reported (%)	Nazroo 1997	1,202	4.3	4.3	As expected, lower than in the White population.
Mental health	Lacking energy or problem sleeping (%)	Nazroo 1997 (a) and (b) (mental health)	614	36	60	Mental health problems are very common, with a particularly high prevalence of affirmative response to the 'life not worth living' question.
	Anxiety (%)			11	14	
	Life not worth living (%)			3.8	3.8	
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997	1,205	34	41	General health reported as poor, and worse than in the White population.

* Men and women combined – sex-specific data not given.

Table 26: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Chinese men and women.

Variable	Measure	Ref.	Number of subjects		Results		Comment
			Male	Female	Male	Female	
Lifestyle factor							
Smoking	current regular smoker (%)	HEA Chinese	477	545	21	8	Smoking is common in men, and has increased in those men under 30 and over 50 and increased in women over 30.
Alcohol	current drinker (%)	HEA Chinese	429	491	73	56	Drinking alcohol is common, though the prevalence is lower than in the White population.
Physical activity	takes vigorous exercise >20 mins at least 3/week (%)	HEA Chinese	463	534	17	9	The prevalence is low, and fewer older people take such exercise compared to younger people.
Biochemical measure							
Cholesterol	mean (mmol/l)	Harland 1997	183	197	5.1	4.9	The challenge is to maintain these comparatively low levels.
HDL	mean (mmol/l)	Harland 1997	183	197	1.4	1.6	The challenge is to maintain these satisfactory levels.
Triglycerides	mean (mmol/l)	Harland 1997	183	197	1.0	0.8	The challenge is to maintain these satisfactory levels.
Physical measure							
Waist	mean (cm)	Harland 1997	183	197	83	77	The waist size is satisfactory.
Height	mean (cm)	Harland 1997	183	197	166	155	The population is comparatively short.
Weight	mean (kg)	Harland 1997	183	197	66	56	The weights are satisfactory.
Waist/hip ratio	mean	Harland 1997	183	197	0.89	0.84	Male ratios lower than the White population but females greater than White females, which may reflect small hips, rather than large waists.
BMI	mean	Harland 1997	183	197	23.8	23.5	The level is satisfactory, but increases are to be avoided.
Blood pressure	av. Systolic av. Diastolic (mmHg)	Harland 1997	183	197	123 77	121 75	The levels are average, with males slightly lower than in the White population but females slightly higher.

Table 26: Continued.

Self-reported health status						
Hypertension	Self-reported (%)	Nazroo 1997	1,195	4	5	Low, and yet mortality from stroke is comparatively high.
Diabetes	Self-reported (%)	Nazroo 1997	1,205	2.2*	2.2*	The prevalence is comparatively low, and similar to the White population.
Angina/MI	Self-reported (%)	Nazroo 1997	1,202	4.1	1.7	The prevalence is low, and much lower than in the White population.
Mental health	Lacking energy or problem sleeping (%) Anxiety (%) Life not worth living (%)	Nazroo 1997 (a) and (b) (mental health)	614	47 5 0	40 10 0	The data, at face value, suggest minor mental health problems are common but serious ones may be less so.
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997	1,205	22	30	These figures compare favourably with other ethnic groups.

* Men and women combined – sex-specific data not given.

Table 27: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for White men and women.

Variable	Measure	Ref.	Number of subjects		Results	
			Male	Female	Male	Female
Lifestyle factor						
Smoking	current regular smoker (%)	Nazroo	2,867		34	37
Alcohol	current drinker (%)	Nazroo	2,866		92	83
Biochemical measure						
Cholesterol	mean (mmol/l)	Bhopal 1999	425	399	5.7	5.6
HDL	mean (mmol/l)	Bhopal 1999	425	399	1.3	1.6
Triglycerides	mean (mmol/l)	Bhopal 1999	425	399	1.4	1.2
Physical measure						
Waist	mean (cm)	HEA 2000			90.3	80.6
Height	mean(cm)	HEA 2000**			175	162
Weight	mean (kg)	HEA 2000			77.2	65.4
Waist/hip ratio	mean	HEA 2000			0.92	0.81
BMI	mean	HEA 2000			25.2	25.1
Blood pressure	av. Systolic av. Diastolic (mmHg)	Bhopal 1999			129 78	121 69
Self-reported health status						
Hypertension	Self-reported (%)	Nazroo 1997	2,862		15	17
Diabetes	Self-reported (%)	Nazroo 1997	2,867		2.2*	2.2*
Angina/MI	Self-reported (%)	Nazroo 1997	2,864		8.0	6.2
Mental health	Lacking energy or problem sleeping (%) Anxiety (%) Life not worth living (%)	Nazroo 1997 (b) (mental health)	2,867		48 12 1.5	62 23 3.3
Self-assessed general health	Fair/poor health or longstanding illness or registered disabled (%)	Nazroo 1997	2,867		31	36

* Men and women combined – sex-specific data not given.
** The physical measures data are from the Allied Dunbar National Fitness Survey, cited in Sproston *et al.*[87]

Ethnic minority groups are heterogeneous in their health. In terms of both overall health (say, measured by the all-cause SMR or self-reported health) and specific causes (say, coronary heart disease or oral cancers) there is marked heterogeneity. There is also great heterogeneity within ethnic groupings.

There is a common assumption and oft-stated view that the health of Britain's ethnic minorities is worse than expected (judged by the standard of the ethnic majority (white) population). This is at best simplistic, and sometimes wrong. First, such conclusions need to be cautious in the light of the possible weaknesses in the underlying data, particularly those based on mortality statistics. Second, even on the basis of the published statistics, overall measures such as SMRs are often around and sometimes less than 100 in some ethnic minority populations. There is the subtle question of how we judge the level of expected health. Is it

right to base the expected level on the white population which, on average, has much higher economic standing? Might it be that, taking into account social and economic factors, the health of ethnic minority groups is about that to be expected? Certainly, overall SMRs in ethnic minority groups tend to be on a par with people in social classes IV and V in the general population. It is worth noting that some of the highest all-cause SMRs are not in the ethnic minority groups but in a sub-group of the white population – Irish and Scots living in England.[103,104]

In many if not most respects, for mortality and morbidity, the ethnic minority groups have similar patterns of disease and overall health to the ethnic majority. This is plain when disease rankings are based on frequency as in **Tables 5**, and **6–17**. In their detailed community-based study of South Asians in Glasgow, Williams *et al.*[105] concluded that 'South Asians were consistently disadvantaged only in terms of anthropometric measures. Otherwise, the many differences were balanced, with disadvantage being concentrated only among South Asian women.' This general conclusion holds in this analysis.

There are some differences in disease pattern that need attention, but not at the expense of potentially more important diseases that show no striking differences (such as respiratory diseases). Conditions which are less common in minority ethnic groups than in the white population tend to be ignored (e.g. lung cancer, the leading cancer in men in most ethnic groups, and among the leaders for women) but may be worth more attention than conditions which are actually less common (though relatively more common than in the white population), e.g. liver cancer.

The differences are complex and vary over time and between ethnic groups. Simplifications may easily mislead. It should be noted that information is most readily available for Afro-Caribbean and South Asian groups, is poor for Chinese origin people, and unavailable for most other groups, e.g. those from the Middle East and many groups of refugees.

With the above provisos, the following generalisations seem to be sound, consistent across studies, and unlikely to be explained by artefacts: the major cause of death, and both the serious and minor health problems, of most ethnic minority communities differ little from those of the population as a whole. For example, coronary heart disease, stroke and cancer are the commonest cause of death, and accidents, poisonings, digestive disorders, respiratory infection and circulatory problems the main reasons for admission to hospital, whichever community you consider. Health professionals caring for ethnic minority patients will usually be confronted with these common problems, and will see the conditions specific to ethnic minorities infrequently. Their problem will be to make the correct diagnosis in the face of communication barriers of one kind or another. However, both health authorities and individual practitioners need to know of the conditions that are rare in the population as a whole and yet sometimes seen in minority ethnic communities. Health authorities may need to modify their service priorities and practitioners may need to consider their approach to diagnosis.

Some of the conditions that are much commoner in one or more minority ethnic groups than the indigenous community include:

- infectious diseases including tuberculosis and malaria
- diabetes mellitus
- perinatal mortality
- hypertension and cerebrovascular disease
- cancer of the oropharynx; cancer of the liver; cancer of the prostate
- haemoglobinopathies
- vitamin D deficiency.

Equally, there are some conditions which are less common in one or more minority ethnic groups relative to the population as a whole, including:

- many cancers, including the common ones of lung and breast

- mental disorders
- diseases of the nervous system and sense organs.

For most specific conditions, the SMR is not consistently high in every ethnic group, for example, ischaemic heart disease is relatively common in Indian, Pakistani, and Bangladeshi populations but relatively uncommon in the Chinese and Afro-Caribbeans.

The above lists are not comprehensive. Health authorities have the difficult task of ensuring that their services cater not only for the common causes of death and disability but also take account of any unusual patterns of disease in their population. Some specific diseases that merit discussion include the following.

- **Diabetes:** This is much commoner in Afro-Caribbean and South Asian minority groups than in the population as a whole. In the Chinese, the prevalence (in Newcastle) is on a par with the white population but on the basis of a higher prevalence of impaired glucose intolerance,[94] there is evidence that a rise is imminent. The causes of the high rates are likely to be a mix of genetic, lifestyle, environmental and economic factors.
- **Coronary heart disease:** This is moderately higher in South Asian groups than in the population as a whole, with increasing evidence that the poorest groups, of Pakistani and Bangladeshi origin, have the highest rates. The causes of the excess are incompletely understood. Recent work[84,93,94] indicates that socio-economic factors are important. The role of the classic risk factors (high blood pressure, lipids, smoking) is clearly important. Central obesity and insulin resistance are two other factors of especial note. Coronary heart disease is one of the foremost killers of other ethnic groups, including Afro-Caribbean and Chinese, even though the rates are lower than in the population as a whole.
- **Stroke:** This is highest in Afro-Caribbean populations, but also the rates are relatively high in the Chinese and South Asian groups. The major known associated risk factor is high blood pressure, which is extremely common in Afro-Caribbeans but not in the others. This tendency to stroke is commonly attributed to genetic factors. Other causes, including racism, are being investigated. Stroke is an extremely important cause of death in all other ethnic minority populations.
- **Respiratory diseases:** These tend to get little attention. The mortality and morbidity from these diseases is usually a little less than in the white comparison populations, which makes them extremely common and important problems which ought not to be neglected.
- **Neoplasms:** Overall, cancers tend to be less common in ethnic minority groups than in the 'white' comparison population (but a dominant problem, nonetheless). Some cancers are strikingly less common, e.g. lung cancer – relating to lower smoking prevalence. Nevertheless, this cancer remains the top ranking cancer in men. For some cancers, the SMRs are strikingly different from the population as a whole. Oropharyngeal cancers are commonest in South Asian groups and prostate cancer in African origin groups. Cancer variations are usually attributed to environmental factors.
- **Infections:** The common respiratory and gastrointestinal infections are dominant and important in all ethnic groups. Diseases that are associated with warm climates, such as malaria, are much more likely in ethnic minority groups. Tuberculosis is dramatically commoner in most ethnic minority groups, particularly South Asian ones. The causes are complex – relating to opportunities for exposure (travel, migration, etc.), immunity and living conditions in the UK. The latter seems to be an important factor maintaining the high level of tuberculosis in South Asians settled in the UK.
- **Haemoglobinopathies:** The haemoglobin disorders – thalassaemias and sickle cell disorders – are important genetic conditions that affect people who originate from Africa, the Caribbean, the Middle East, Asia and the Mediterranean. It is important to distinguish between carriers of haemoglobin disorders, who are very numerous, and people who have a major haemoglobin disorder, who are relatively few.[106] Carriers are healthy but due to recessive inheritance there is risk of having a child with a major disorder. The risk of these disorders in some ethnic groups is shown in **Table 28**.

Table 28: Estimated prevalence of carriers of Hb disorders, affected births and at-risk pregnancies in ethnic minority groups in the UK.

Ethnic group	AS %	AC %	β Thal. %	α^0 Thal. %	Hb E %	Total carriers	Affected births/ 1,000	At-risk pregnancies/ 1,000	Principal risk
White			0.1	+			0.00025	0.001	Thal.
Black-Caribbean	11	4	0.9	+	+	16	5.6	22.4	SCD
Black-African	22	3	1.0			25	15.6	62.4	SCD
Black other	11	4	0.9	+	+	16	5.6	22.4	SCD
Indian	+		4.3		+	4.3	0.46	1.85	β Thal.
Pakistani	+		4.5		+	4.5	1.0	4.0	β Thal.
Bangladeshi			2.8		4.5	7.3	0.826	3.3	Hb E/ β Thal.
Chinese			3.0	5.0	+	8.0	0.85	3.4	α^0 Thal./ β Thal.
Other Asian	+	+	3.0			3.0	0.225	0.9	β Thal.
Other-Other	5		1.0	+		6.0	1.04	4.16	SCD/β Thal.
Cypriot	0.5–1		16.0	1.5		17.5	4.33	17.32	β Thal.
Italian	+		4.0			4.0	0.2	0.8	β Thal.

Source: HEA 1998[107]
AS = sickle cell trait; AC = haemoglobin C trait; β Thal. = beta thalassaemia trait; α^0 Thal. = alpha-zero thalassaemia trait; Hb E = haemoglobin E trait; SCD = sickle cell disorders.

The major haemoglobin disorders are shown in **Box 3** and cover a wide spectrum of clinical severity.

Box 3: The major haemoglobin disorders.

Thalassaemias
- Beta thalassaemia
- Haemoglobin E/beta thalassaemia
- Alpha-zero thalassaemia major
- Haemoglobin H disease

Sickle cell disorders
- Sickle cell anaemia (Haemoglobin SS)
- Haemoglobin S/C disease
- Haemoglobin S/beta thalassaemia
- Haemoglobin S/D disease

Source: HEA 1998[107]

There are estimated to be 600 patients with major beta thalassaemia and 6000 with sickle cell disorder.[107] There is concern about increasing cases of thalassaemia amongst the South Asian communities, probably due to under-utilisation of counselling services.[108,109] The prevalence of these disorders vary by district and the methodology to estimate number within a particular district is given in HEA report[107] and Hickman *et al.* 1999.[110]

- **Childhood mortality:** Perinatal and neonatal mortality rates, and those in the age group 1–14, tend to be higher in most studies. The exception is the comparatively low incidence of sudden infant death syndrome demonstrated in some ethnic minority groups. The causes are complex and poorly understood.

  The high perinatal mortality rate amongst Pakistanis maybe linked to consanguineous marriages,[111] but this remains controversial.[112] Consanguineous marriages are defined as between close relatives, usually between second cousins or closer. These kinship patterns are found throughout the world and not restricted to the Muslim community.[113] These marriages can lead to an increase in rare recessively-inherited disorders, but the effect of this on the disease patterns of the population as a whole has been exaggerated.[113]
- **Mental health:** Numbers of deaths directly attributable to mental illness are small, and mortality data are not helpful to distinguish ethnic differences in prevalence of psychoses and neuroses. Suicide rates among migrants in England and Wales in 1979–93 generally reflect patterns in the country of origin, and migration does not appear to increase the risk of suicide.[114] SMRs for all age groups for suicide in 1988–92 were significantly lower than 100 in men born in Bangladesh, Sri Lanka and Pakistan and for men and women born in the Caribbean commonwealth, although SMRs for suicide among the Caribbean-born were elevated in the 25–34 year age group. SMRs for suicide are significantly higher among women born in India, with marked excess for deaths by burning.[115]

  Migrants to and from a variety of countries have higher rates of admission to psychiatric hospitals than native-born populations and in the United Kingdom African-Caribbeans have higher admission rates and receive a diagnosis of schizophrenia more often than do members of other ethnic groups.[116–8] A prospective study of incident psychosis found that annual incidence of schizophrenia and other non-affective psychoses was higher than the white population in all other minority ethnic groups studied, but the difference was only significant for the black population.[119] Conflicting evidence exists regarding rates of hospital admission for psychosis among people born on the Indian subcontinent, and this may reflect differences between sub-groups of this diverse population. Possible explanations for differences between migrants and native populations include higher incidence of psychiatric disease in the host country, the effect of migration, selection bias of migrants, confounding by socio-economic factors, differences in seeking medical care, prejudice in medical practice, inequitable service utilisation and drug use.

  Descriptive epidemiological studies of use of treatments have suggested that African-Caribbeans have low rates of depression and South Asians have low rates of all mental illnesses.[120] Results of the British Fourth National Survey of Ethnic Minorities provided a different picture, possibly as a consequence of the use of incidence rather than prevalence rates.[121] Rates of mental illness among Asians who had been educated in Britain or who were fluent in English were similar to those of the white population, suggesting the possibility that the instruments used to detect depression were less sensitive among other Asian groups.[122] Similar methodological limitations were suspected in a study of the prevalence of dementia and depression among elderly people in black and ethnic minorities in Liverpool. No differences were found between English speaking ethnic groups and the indigenous populations, but dementia was found to be more prevalent among non-English speaking groups.[123] The prevalence of anxiety and depressive illness was similar in African-Caribbeans and whites in a population-based survey in Manchester.[124] Limitations of this survey include the definitions of the ethnic groups and the low response rates, giving a potentially unrepresentative sample.
- **Sexual health:** Limited information is available concerning the sexual health of ethnic minority populations. South Asian men in Glasgow reported lower use of condoms than non-Asian men.[125] A high prevalence of sexually transmitted disease including gonorrhoea and chlamydia has been reported among Afro-Caribbeans in London, Leeds and Birmingham.[126–9]

  Data from anonymous seroprevalence surveillance suggest that the risk of HIV among pregnant women from sub-Saharan Africa is much higher than that of other populations, such that 76.4% of

seropositive newborn babies were delivered to women from this population in 1997–8. Seroprevalence of HIV was highest among women born in East Africa (2.3%) and Central Africa (1.9%), compared with 0.14% overall. There was little evidence of HIV in women born in Southern Asia (0.0081%) and none within UK-born Asian communities.[130]

Data from the General Household Surveys of 1991–5 were used to examine fertility and contraception among ethnic minority women in Great Britain.[131] Fertility in Pakistani/Bangladeshi women was more than double that of white women and was associated with reduced use of contraception. The study highlighted potential unmet family planning needs and the need for cultural sensitivity in provision of family planning services. Married, non-professional Asian women have been found to experience difficulties in using family planning services, largely due to communication problems with health professionals and low levels of personal autonomy.[132] Abortion data are not recorded by ethnic group but there is a rising abortion rate among Bengali women in Tower Hamlets.[133]

- **Nutrition:** Whilst some BMEGs have lower incidence of specific diet-related diseases when resident in their country of origin, this difference gradually reduces as they adopt the more 'western' foods and cooking practices.[134] Further, there are also some diet-related problems that are commoner in BMEGs, such as vitamin D and iron deficiencies amongst South Asian children under 2 years.[135,136] There is an association between low plasma vitamin D and iron deficiency anaemia, particularly in winter.[136,137]

Conclusion

Patterns of health and disease are profoundly influenced by genetic, cultural, socio-economic and environmental factors. Undoubtedly, important differences exist between human populations in such factors. It would be most extraordinary if one of the consequences was not differences in health and disease by ethnicity, which is linked to the factors mentioned. Indeed, such differences between ethnic and racial groups can be shown with ease. The difficulties are not in demonstrating differences but in interpreting their meaning and using them to benefit the population.

Why is a disease more common in one group of people than another? This question lies at the heart of the debate on inequalities in health. Answers to these questions contain essential and unknown truths about the causes of disease. Answers will benefit all populations. Epidemiologists, who attempt to unravel the mystery in the patterns of disease in populations, become intrigued by ethnicity and health research, and particularly the mechanisms by which disease differences occur.

One major explanation, which has had insufficient attention, is the role of socio-economic status. On arrival in Britain most migrants held unskilled jobs. This legacy has been passed to their children (though there are many exceptions) and ethnic minority communities have more than their share of unemployment and low paid work. Much of the health disadvantage associated with ethnic minority groups may not result from their racial and cultural background, but relate to their socio-economic disadvantage. Their health status may be comparable to social classes IV and V in the indigenous population, and the solutions to health problems may also be similar. The problem of inequity and inequality in the health and health care of ethnic minority groups has defied easy solution. The explanation is *not* simply lack of knowledge, interest or even money. Inequalities may widen in the face of both interest and research – the most clear-cut example being the black/white disparity in life expectancy in the USA.[96]

The challenges of gaining, interpreting and utilising information on the pattern of health and disease in ethnic minority groups are great. To avoid traps, health needs assessors should: understand the strengths and limitations of the concepts of race and ethnicity, and the population sub-groupings derived to categorise people; ensure that all the relevant data and modes of presentation are used to produce a balanced analysis; and give due emphasis to both similarities and differences and draw tentative and careful

interpretations of the causes of differences. Above all, they should avoid portraying differences as demonstrating the inferiority of some population group – that path has sustained and nourished a racist scientific literature. For health needs assessment, the common diseases and other common health problems deserve the most attention. Health needs assessors must avoid being deflected by the attention given to controversies generated by ethnic differences.

The approach used here has been to focus *first* on the important problems and diseases, then to refine the sense of priority using the relative approach. This approach avoids the piecemeal approach to tackling so-called ethnic health issues. Statistics cannot make coherent policy, without principles that guide their interpretation. This section is therefore as much concerned with the principles of data interpretation as with the data itself.

5 Services available and their costs

Introduction

This section considers services available and their utilisation in so far as data are available. It focuses upon key generic issues of concern to the health care needs of minority ethnic communities. Bilingual services, in particular, are considered. The reader is referred to other chapters for detail upon specific diseases and services, although certain pertinent issues relating to BMEGs are mentioned here.

Access to appropriate services

A central question for health authorities, trusts and Primary Care Organisations (PCOs) is the extent to which minority ethnic populations enjoy equality of access to appropriate health services. Variation in effective access to services may be important sources of inequality in the health experience of different ethnic groups, impacting upon quality and outcomes of care.[84] The variations in health described in section 4 might be partly explained by differences in service use. These may reflect demand for services rather than inequality of access to them. However, differences in demand may also result from a failure of health services to appropriately address the needs of minority ethnic groups.

In addition to levels of ill-health, the demand for, and use of, services will depend upon a wide range of factors including knowledge of services and how to use them, health beliefs and attitudes, the sensitivity of services to differing needs, and the quality of care provided.[138] These raise the key issues for health professionals of effective communication, awareness of attitudes, culture, stereotyping and racism within consultations and broader aspects of service delivery.[139]

Variation in availability and use of services

It must be stated again that even though ethnic monitoring is mandatory for some aspects of secondary care, relevant data remains incomplete and of variable quality for interpretation. However, in some localities, data may be of sufficient quality.[71] There appears to be considerable variation in availability and use of services in different localities. This may reflect several factors including:

- historical lack of performance management of, and variable commitment to, appropriate service development for ethnic minorities
- lack of awareness or relevant training about ethnic health and diversity issues
- professionals' differing attitudes towards people from ethnic minorities

- lack of relevant information (including inadequate ethnic monitoring) and therefore mechanisms to inform clinical audit, service planning and delivery
- nature of the population and variation in demand for services.

It is still not clear to what extent institutional racism and language and cultural barriers affect service utilisation and quality of care. Many services, for example bilingual services, are underdeveloped or may be underused by patients or the professionals facilitating their health care.

Health service utilisation

Primary care services

In general, a high proportion of people from most ethnic groups appear to be registered with a general practitioner – with registration rates of 99–100%,[86,140] but African-Caribbean men have higher non-registration rates (4%). Minority groups are also significantly more likely to attend open GP surgeries than those offering appointments[141] and may wait longer to see their GP.[86,142] With the exception of the Chinese, minority groups have comparable or higher consultation rates with their GP than the general population.[84,86,143,144]

As ethnic monitoring is not yet mandatory within primary care, there is currently little routine data available. However, data (**Tables 29–35**) is available from the National Morbidity Statistics from General Practice study done in 1991.[145] Essentially, 60 practices in England and Wales provided data for one year on face-to-face contact with 502 493 patients. Two percent of these patients were from ethnic minority groups compared to 6% in the 1991 census. The data in the tables are a re-analysis done by ONS and are not identical to those in the published report. This new analysis includes consultations with a nurse (although the study did not record nurse consultations if a doctor was also consulted during the same visit). The standard population for calculating the standardised patient consulting ratios (SPCR) was the entire study population including those for whom there was no ethnicity code (17% of patients). This group's consultation rates were low. As a result the SPCR for the white population is high at 108 for men and 105 for women. The interpreting of the data requires caution as the sample is not representative, the number of people is small, and 95% confidence intervals are not given (for technical reasons). Nonetheless, these are the best data available that provide a national picture. As with the mortality tables, the causes for consultation are ranked by approximate frequency of consultation (based on the numbers for women at all ages).

For each of men and women, in the three age groups and at all ages, the tables show the number of consultations, the consultation rate (crude), the age-standardised consultation rate (both per 10 000 patient-years at risk), and the age-standardised patient consulting ratio, where the entire population in the study provides the standard i.e. 100. The number of people in each age group was small, and this applied particularly to those over 65 years (the exception to this is the white population). The causes of consultation often varied by age and sex, usually in a predictable way. For example, the standardised consultation ratio for infectious and parasitic diseases was higher in children than in adults, diseases of the blood and genito-urinary systems were commoner in women than men, and diseases of the circulatory system were commoner in men than women. The consultation rate for mental disorders in men was half that in women. In all minority ethnic groups, except the Chinese and white groups, boys aged 0–15 years had a higher consultation rate than girls. The interpretation of the patterns is shown in detail for Indians, as an example, and briefly for other groups.

In Indians (**Table 29**), for all diseases, the standardised rates were higher in women than in men – mainly because of substantially higher consultation rates in women 16–64 compared to men. The standardised

ratio shows that Indian men had a 12% excess of consultations compared to the whole population, and for women the excess was 2%. The commonest causes of consultation in Indians were factors influencing health status and contact with health services, respiratory problems, musculo-skeletal and connective tissue disorders, problems of the skin, and problems of the nervous system and sense organs. It is noteworthy that at general practice level, diseases of the circulatory system are not one of the dominant problems, and neoplasms are a rare cause of consultation.

Table 29: General practice consultation statistics for Indians. Rates are per 10,000 patient-years at risk.

	Men (no. of people)				**Women (no. of people)**			
	0–15 (376)	**16–64 (905)**	**65+ (64)**	**all ages (1,345)**	**0–15 (344)**	**16–64 (873)**	**65+ (86)**	**all ages (1,303)**
All diseases								
Number	1,385	2,932	349	4,666	1,076	4,571	464	6,111
Rate	39,407	34,327	57,546	36,849	33,899	55,057	56,354	49,684
Standardised rate	42,444	34,894	58,403	39,360	34,219	55,943	52,775	51,092
Standardised ratio	108	113	109	112	105	102	89	102
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	171	650	72	893	147	1,091	47	1,285
Rate	4,865	7,610	1,1872	7,052	4,631	13,141	5,708	10,447
Standardised rate	5,215	7,670	10,141	7,434	4,673	13,111	5,326	10,108
Standardised ratio	131	157	139	149	110	98	85	99
460–519 diseases of the respiratory system								
Number	545	451	50	1,046	380	592	67	1,039
Rate	15,507	5,280	8,244	8,261	11,972	7,131	8,137	8,447
Standardised rate	17,040	5,225	10,349	8,407	12,097	7,458	7,009	8,302
Standardised ratio	134	141	121	137	123	112	114	116
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	40	301	42	383	16	580	67	663
Rate	1,138	3,524	6,925	3,025	504	6,986	8,137	5,390
Standardised rate	1,036	3,695	7,182	3,537	498	7,566	8,255	6,281
Standardised ratio	149	118	139	123	79	162	124	151
780–799 symptoms, signs and ill-defined conditions								
Number	146	185	26	357	115	333	40	488
Rate	4,154	2,166	4,287	2,819	3,623	4,011	4,858	3,968
Standardised rate	4,546	2,180	3,723	2,879	3,683	4,030	4,332	4,013
Standardised ratio	177	157	109	161	124	141	130	135
320–389 diseases of the nervous system and sense organs								
Number	126	162	12	300	110	276	37	423
Rate	3,585	1,897	1,979	2,369	3,466	3,324	4,494	3,439
Standardised rate	4,035	1,897	1,809	2,350	3,510	3,348	4,413	3,562
Standardised ratio	101	123	61	109	79	119	122	104
580–629 diseases of the genito-urinary system								
Number	11	41	3	55	24	375	11	410
Rate	313	480	495	434	756	4,517	1,336	3,333
Standardised rate	328	480	456	444	754	4,255	1,091	3,020
Standardised ratio	66	102	70	87	106	88	62	89

Table 29: Continued.

680–709 diseases of the skin and subcutaneous tissue								
Number	118	256	15	389	100	288	14	402
Rate	3,357	2,997	2,473	3,072	3,151	3,469	1,700	3,268
Standardised rate	3,429	3,141	2,249	3,097	3,174	3,452	1,432	3,052
Standardised ratio	108	137	134	126	101	125	92	116
001–139 infectious and parasitic diseases								
Number	113	110	6	229	92	209	8	309
Rate	3,215	1,288	989	1,809	2,898	2,517	972	2,512
Standardised rate	3,458	1,306	819	1,715	2,907	2,383	842	2,224
Standardised ratio	99	115	118	107	80	98	71	91
800–999 injury and poisoning								
Number	65	195	4	264	53	153	32	238
Rate	1,849	2,283	660	2,085	1,670	1,843	3,887	1,935
Standardised rate	1,828	2,239	1,339	2,042	1,686	1,838	4,598	2,279
Standardised ratio	100	105	57	102	113	93	84	97
390–459 diseases of the circulatory system								
Number	2	228	91	321	3	146	56	205
Rate	57	2,669	15,005	2,535	95	1,759	6,801	1,667
Standardised rate	44	2,808	16,009	3,795	94	1,951	6,615	2,379
Standardised ratio	118	138	128	135	385	122	98	117
520–579 diseases of the digestive system								
Number	22	139	9	170	23	157	20	200
Rate	626	1,627	1,484	1,343	725	1,891	2,429	1,626
Standardised rate	717	1,697	1,408	1,449	740	1,866	2,101	1,683
Standardised ratio	102	133	78	121	134	123	108	123
290–319 mental disorders								
Number	12	75	2	89	3	136	26	165
Rate	341	878	330	703	95	1,638	3,158	1,342
Standardised rate	352	893	253	698	93	1,625	2,767	1,516
Standardised ratio	95	76	48	77	48	73	90	73
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	5	105	14	124	4	106	32	142
Rate	142	1,229	2,308	979	126	1,277	3,887	1,155
Standardised rate	110	1,279	2,156	1,131	120	1,560	3,383	1,586
Standardised ratio	129	178	181	176	60	130	199	139
280–289 diseases of blood and blood-forming organs								
Number	4	7	1	12	4	56	7	67
Rate	114	82	165	95	126	675	850	545
Standardised rate	128	84	126	99	128	660	611	546
Standardised ratio	224	170	94	173	213	364	190	320

Table 29: Continued.

	Men (no. of people)				Women (no. of people)			
	0–15 (376)	16–64 (905)	65+ (64)	all ages (1,345)	0–15 (344)	16–64 (873)	65+ (86)	all ages (1,303)
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	1	48	0	49
Rate	0	0	0	0	32	578	0	398
Standardised rate	0	0	0	0	32	527	0	339
Standardised ratio	0	0	0	0	282	88	0	90
140–239 neoplasms								
Number	0	23	2	25	0	19	0	19
Rate	0	269	330	197	0	229	0	154
Standardised rate	0	251	383	212	0	241	0	152
Standardised ratio	0	81	31	62	0	60	0	48
740–759 congenital anomalies								
Number	5	4	0	9	1	6	0	7
Rate	142	47	0	71	32	72	0	57
Standardised rate	177	48	0	70	30	70	0	50
Standardised ratio	71	154	0	99	37	144	0	91
760–779 certain conditions originating in the perinatal period								
Number	0	0	0	0	0	0	0	0
Rate	0	0	0	0	0	0	0	0
Standardised rate	0	0	0	0	0	0	0	0
Standardised ratio	0	0	0	0	0	0	0	0

The standardised ratio picks out conditions that are relatively common or relatively rare. Surprisingly, the ratio for infectious and parasitic diseases was close to 100. The conditions that were comparatively high were: endocrine disorders; blood; respiratory; circulatory; and symptoms, signs and ill-defined conditions; and those that were comparatively low were: neoplasms; mental disorders; and genito-urinary.

The pattern of consultation for Pakistanis (**Table 30**), shown in **Table 30**, was broadly as described for Indians. Overall, consultation rates for women exceeded those for men. In both men and women, compared to the whole population, there was a 9% excess of consultation in men and 8% in women. For most conditions, the consultation rates were slightly higher than in Indians, but this did not apply to the circulatory system. The substantially raised standardised ratio for endocrine disorders, for digestive system disorders and for symptoms and signs were noteworthy.

Table 31 provides data on Bangladeshis and shows that the general principles described above hold. In men, compared to the population as a whole, there was a 19% excess in the consultation rate, and in women 9%. Among the features that stood out were the high standardised ratios for endocrine diseases and the huge difference in men and women for circulatory disorders. The high standardised ratios for endocrine disorders (particularly in men), for digestive system, for skin, and for symptoms and signs (particularly women) are noteworthy.

Table 30: General practice consultation statistics for Pakistanis. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	862	1,431	82	2,375	1,011	1,842	30	2,883
Rate	39,744	37,177	49,370	38,405	44,581	60,815	42,053	53,707
Standardised rate	40,589	37,185	50,218	39,334	45,235	62,502	55,258	57,840
Standardised ratio	109	111	79	109	112	106	81	108
460–519 diseases of the respiratory system								
Number	330	266	15	611	345	264	5	614
Rate	15,215	6,911	9,031	9,880	15,213	8,716	7,009	11,438
Standardised rate	15,594	6,744	10,383	9,085	15,391	8,592	11,926	10,510
Standardised ratio	131	154	84	140	139	133	193	136
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	95	266	7	368	117	402	1	520
Rate	4,380	6,911	4,215	5,951	5,159	13,272	1,402	9,687
Standardised rate	4,478	6,866	3,979	6,030	5,348	12,478	1,244	9,145
Standardised ratio	105	155	96	133	90	101	36	97
780–799 symptoms, signs and ill-defined conditions								
Number	95	88	7	190	123	180	4	307
Rate	4,380	2,286	4,215	3,072	5,424	5,943	5,607	5,719
Standardised rate	4,516	2,286	3,897	2,950	5,456	6,119	4,859	5,772
Standardised ratio	148	172	165	160	180	195	125	187
680–709 diseases of the skin and subcutaneous tissue								
Number	78	102	8	188	108	124	0	232
Rate	3,596	2,650	4,817	3,040	4,762	4,094	0	4,322
Standardised rate	3,697	2,549	4,321	2,992	4,849	4,362	0	3,714
Standardised ratio	124	164	134	145	155	147	0	149
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	10	168	10	188	15	194	6	215
Rate	461	4,365	6,021	3,040	661	6,405	8,411	4,005
Standardised rate	458	4,477	5,759	3,729	672	7,399	7,347	6,055
Standardised ratio	95	146	126	138	105	179	138	167
001–139 infectious and parasitic diseases								
Number	82	62	4	148	128	77	1	206
Rate	3,781	1,611	2,408	2,393	5,644	2,542	1,402	3,838
Standardised rate	3,857	1,585	2,603	2,195	5,699	2,277	1,406	2,807
Standardised ratio	103	129	172	114	141	93	164	119
580–629 diseases of the genito-urinary system								
Number	4	21	0	25	8	189	0	197
Rate	184	546	0	404	353	6,240	0	3,670
Standardised rate	197	468	0	358	367	6,079	0	3,908
Standardised ratio	45	170	0	104	40	121	0	108

Table 30: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
320–389 diseases of the nervous system and sense organs								
Number	83	105	11	199	88	97	4	189
Rate	3,827	2,728	6,623	3,218	3,880	3,203	5,607	3,521
Standardised rate	3,851	2,770	6,708	3,431	3,886	4,112	4,476	4,130
Standardised ratio	91	139	167	113	88	127	125	105
520–579 diseases of the digestive system								
Number	23	89	10	122	37	99	2	138
Rate	1,060	2,312	6,021	1,973	1,632	3,269	2,804	2,571
Standardised rate	1,088	2,405	7,244	2,635	1,647	3,859	14,805	5,290
Standardised ratio	164	162	203	165	228	230	93	226
800–999 injury and poisoning								
Number	44	72	1	117	29	57	2	88
Rate	2,029	1,871	602	1,892	1,279	1,882	2,804	1,639
Standardised rate	2,012	1,776	521	1,694	1,328	2,102	2,489	2,014
Standardised ratio	117	85	52	96	64	118	84	96
290–319 mental disorders								
Number	2	29	0	31	4	43	0	47
Rate	92	753	0	501	176	1,420	0	876
Standardised rate	92	727	0	509	188	1,566	0	1,025
Standardised ratio	43	105	0	90	92	91	0	89
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	0	33	0	33
Rate	0	0	0	0	0	1,090	0	615
Standardised rate	0	0	0	0	0	851	0	537
Standardised ratio	0	0	0	0	0	180	0	177
280–289 diseases of blood and blood-forming organs								
Number	6	1	0	7	2	29	0	31
Rate	277	26	0	113	88	957	0	578
Standardised rate	289	25	0	81	86	763	0	498
Standardised ratio	436	127	0	269	143	318	0	261
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	4	56	6	66	1	27	2	30
Rate	184	1,455	3,612	1,067	44	891	2,804	559
Standardised rate	179	1,598	3,127	1,449	47	905	2,489	1,005
Standardised ratio	411	233	148	237	87	178	161	169
390–459 diseases of the circulatory system								
Number	0	71	3	74	0	22	3	25
Rate	0	1,845	1,806	1,197	0	726	4,205	466
Standardised rate	0	1,955	1,678	1,494	0	858	4,217	1,261
Standardised ratio	0	120	19	99	0	88	43	80

Table 30: Continued.

740–759 congenital anomalies								
Number	4	0	0	4	4	1	0	5
Rate	184	0	0	65	176	33	0	93
Standardised rate	183	0	0	40	179	23	0	50
Standardised ratio	105	0	0	73	158	79	0	125
140–239 neoplasms								
Number	0	35	0	35	0	4	0	4
Rate	0	909	0	566	0	132	0	75
Standardised rate	0	954	0	642	0	158	0	100
Standardised ratio	0	133	0	94	0	47	0	37
760–779 certain conditions originating in the perinatal period								
Number	2	0	0	2	2	0	0	2
Rate	92	0	0	32	88	0	0	37
Standardised rate	96	0	0	21	94	0	0	19
Standardised ratio	175	0	0	174	158	0	0	149

Table 31: General practice consultation statistics for Bangladeshis. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				**Women (No. of people)**			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	511	663	24	1,198	336	672	17	1,025
Rate	49,323	48,275	34,286	48,318	33,103	56,473	50,421	45,786
Standardised rate	50,862	48,636	26,923	47,335	33,719	58,280	54,109	52,541
Standardised Ratio	115	126	53	119	113	105	103	109
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	69	112	7	188	32	157	1	190
Rate	6,660	8,155	10,000	7,582	3,153	13,194	2,966	8,487
Standardised rate	6,954	8,354	7,853	7,965	3,111	12,487	3,621	9,711
Standardised ratio	127	179	85	152	85	104	78	98
460–519 diseases of the respiratory system								
Number	191	107	4	302	121	63	0	184
Rate	18,436	7,791	5,714	12,180	11,921	5,294	0	8,219
Standardised Rate	19,067	7,462	4,487	10,082	12,351	5,617	0	6,647
Standardised ratio	133	180	53	149	117	106	0	111
780–799 symptoms, signs and ill-defined conditions								
Number	39	45	1	85	36	78	2	116
Rate	3,764	3,277	1,429	3,428	3,547	6,555	5,932	5,182
Standardised rate	3,813	3,124	1,122	3,124	3,649	6,834	6,311	6,091
Standardised ratio	169	234	88	192	160	221	278	193

Table 31: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	16–64 (399)	65+ (19)	All ages (650)	0–15 (242)	16–64 (320)	65+ (8)	All ages (570)
680–709 diseases of the skin and subcutaneous tissue								
Number	48	67	1	116	49	42	1	92
Rate	4,633	4,878	1,429	4,679	4,827	3,530	2,966	4,110
Standardised rate	4,953	4,827	1,122	4,542	5,057	3,218	3,621	3,655
Standardised ratio	136	235	108	181	175	150	204	163
001–139 infectious and parasitic diseases								
Number	61	36	0	97	41	39	0	80
Rate	5,888	2,621	0	3,912	4,039	3,277	0	3,574
Standardised rate	5,985	2,562	0	3,191	3,995	3,339	0	3,215
Standardised ratio	162	183	0	166	124	132	0	127
320–389 diseases of the nervous system and sense organs								
Number	33	20	3	56	28	47	3	78
Rate	3,185	1,456	4,286	2,259	2,759	3,950	8,898	3,484
Standardised rate	3,260	1,447	3,365	2,059	2,676	3,658	9,932	3,946
Standardised ratio	91	103	142	97	80	175	271	121
520–579 diseases of the digestive system								
Number	27	68	1	96	5	60	2	67
Rate	2,606	4,951	1,429	3,872	493	5,042	5,932	2,993
Standardised rate	2,670	6,057	1,122	4,798	552	6,129	7,243	4,992
Standardised ratio	390	341	104	342	112	332	207	266
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	4	45	1	50	4	56	3	63
Rate	386	3,277	1,429	2,017	394	4,706	8,898	2,814
Standardised rate	378	3,638	1,122	2,616	360	5,836	9,001	4,886
Standardised ratio	103	150	60	137	72	178	198	160
580–629 diseases of the genito-urinary system								
Number	3	18	0	21	7	49	0	56
Rate	290	1,311	0	847	690	4,118	0	2,501
Standardised rate	271	1,407	0	1,005	704	3,856	0	2,852
Standardised ratio	70	194	0	120	69	104	0	97
800–999 injury and poisoning								
Number	32	43	0	75	11	24	1	36
Rate	3,089	3,131	0	3,025	1,084	2,017	2,966	1,608
Standardised rate	3,112	3,171	0	2,886	1,084	2,313	3,621	2,147
Standardised ratio	127	119	0	120	71	113	185	97
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	1	36	2	39	0	28	0	28
Rate	97	2,621	2,857	1,573	0	2,353	0	1,251
Standardised rate	97	2,109	2,244	1,622	0	3,176	0	2,222
Standardised ratio	221	246	170	235	0	183	0	153

Table 31: Continued.

290–319 mental disorders								
Number	2	16	2	20	0	9	0	9
Rate	193	1,165	2,857	807	0	756	0	402
Standardised rate	193	1,374	2,244	1,156	0	660	0	461
Standardised ratio	90	109	452	120	0	50	0	41
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	0	9	0	9
Rate	0	0	0	0	0	756	0	402
Standardised rate	0	0	0	0	0	404	0	283
Standardised ratio	0	0	0	0	0	73	0	71
390–459 diseases of the circulatory system								
Number	0	47	2	49	1	4	2	7
Rate	0	3,422	2,857	1,976	99	336	5,932	313
Standardised rate	0	2,986	2,244	2,183	91	293	5,379	658
Standardised ratio	0	170	46	144	399	48	99	66
280–289 diseases of blood and blood-forming organs								
Number	1	0	0	1	0	5	0	5
Rate	97	0	0	40	0	420	0	223
Standardised rate	107	0	0	26	0	322	0	225
Standardised ratio	177	0	0	103	0	207	0	139
140–239 neoplasms								
Number	0	3	0	3	1	1	2	4
Rate	0	218	0	121	99	84	5,932	179
Standardised rate	0	119	0	80	91	105	5,379	526
Standardised ratio	0	90	0	60	118	31	671	70
760–779 certain conditions originating in the perinatal period								
Number	0	0	0	0	0	1	0	1
Rate	0	0	0	0	0	84	0	45
Standardised rate	0	0	0	0	0	33	0	23
Standardised ratio	0	0	0	0	0	3,531	0	198
740–759 congenital anomalies								
Number	0	0	0	0	0	0	0	0
Rate	0	0	0	0	0	0	0	0
Standardised rate	0	0	0	0	0	0	0	0
Standardised ratio	0	0	0	0	0	0	0	0

Table 32 shows that, for the Chinese, consultation rates were substantially lower than in the population as a whole. Only for symptoms and signs was the standardised ratio distinctly higher in both Chinese men and women compared to the whole population. Chinese men had, overall, lower rates than Chinese women. The consultation rate was markedly higher in men than women for endocrine disorders, but the opposite was true for most other conditions. The male–female disparity was small for circulatory system diseases. The picture portrays an underutilisation of primary care services, possibly in addition to the exceptionally healthy population.

Table 32: General practice consultation statistics for Chinese. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	535	602	50	1,187	536	1,445	107	2,088
Rate	32,142	18,004	27,778	22,878	34,048	40,122	40,432	38,379
Standardised rate	31,111	21,280	25,904	23,956	33,926	39,790	38,292	38,371
Standardised ratio	103	84	73	91	97	99	83	98
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	76	98	12	186	88	430	19	537
Rate	4,566	2,931	6,667	3,585	5,590	11,939	7,179	9,871
Standardised rate	4,369	3,262	6,155	3,833	5,628	10,701	6,595	8,993
Standardised ratio	111	100	103	104	121	97	118	102
460–519 diseases of the respiratory system								
Number	174	131	6	311	194	203	14	411
Rate	10,454	3,918	3,333	5,994	12,323	5,636	5,290	7,555
Standardised rate	10,047	4,270	3,392	5,434	12,229	4,841	5,228	6,373
Standardised ratio	102	87	59	94	108	103	65	103
680–709 diseases of the skin and subcutaneous tissue								
Number	47	52	4	103	87	104	6	197
Rate	2,824	1,555	2,222	1,985	5,526	2,888	2,267	3,621
Standardised rate	2,768	1,498	1,966	1,829	5,530	2,790	2,192	3,232
Standardised ratio	91	103	164	100	118	112	77	113
780–799 symptoms, signs and ill-defined conditions								
Number	64	49	6	119	52	121	17	190
Rate	3,845	1,465	3,333	2,294	3,303	3,360	6,424	3,492
Standardised rate	3,727	1,571	2,477	2,146	3,269	3,509	5,947	3,878
Standardised ratio	130	113	124	122	115	126	121	122
580–629 diseases of the genito-urinary system								
Number	16	11	0	27	5	136	4	145
Rate	961	329	0	520	318	3,776	1,511	2,665
Standardised rate	914	355	0	437	324	3,704	1,187	2,603
Standardised ratio	137	83	0	100	57	86	97	84
001–139 infectious and parasitic diseases								
Number	52	24	0	76	51	68	2	121
Rate	3,124	718	0	1,465	3,240	1,888	756	2,224
Standardised rate	3,050	635	0	1,091	3,241	1,773	690	1,879
Standardised ratio	81	71	0	76	88	78	44	81
320–389 diseases of the nervous system and sense organs								
Number	50	33	4	87	23	73	5	101
Rate	3,004	987	2,222	1,677	1,461	2,027	1,889	1,856
Standardised rate	2,890	1,131	1,652	1,575	1,437	2,079	2,003	1,939
Standardised ratio	78	56	52	68	46	74	85	63

Table 32: Continued.

710–739 diseases of the musculo-skeletal system and connective tissue								
Number	4	44	3	51	1	85	8	94
Rate	240	1,316	1,667	983	64	2,360	3,023	1,728
Standardised rate	261	1,982	1,239	1,521	70	3,419	2,373	2,576
Standardised ratio	51	52	23	49	17	67	37	59
800–999 injury and poisoning								
Number	26	36	0	62	17	64	4	85
Rate	1,562	1,077	0	1,195	1,080	1,777	1,511	1,562
Standardised rate	1,525	1,294	0	1,197	1,081	1,727	1,420	1,547
Standardised ratio	71	52	0	57	72	68	47	68
520–579 diseases of the digestive system								
Number	11	25	1	37	12	32	16	60
Rate	661	748	556	713	762	889	6,046	1,103
Standardised rate	644	815	413	732	744	945	6,116	1,788
Standardised ratio	108	72	38	79	134	65	153	84
390–459 diseases of the circulatory system								
Number	2	57	3	62	1	43	8	52
Rate	120	1,705	1,667	1,195	64	1,194	3,023	956
Standardised rate	125	2,723	1,867	2,057	63	1,972	3,200	1,803
Standardised ratio	536	86	35	80	268	86	36	74
290–319 mental disorders								
Number	7	18	0	25	1	43	1	45
Rate	421	538	0	482	64	1,194	378	827
Standardised rate	442	750	0	598	58	1,068	345	744
Standardised ratio	138	51	0	62	33	51	31	49
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	0	20	0	20
Rate	0	0	0	0	0	555	0	368
Standardised rate	0	0	0	0	0	396	0	250
Standardised ratio	0	0	0	0	0	74	0	73
140–239 neoplasms								
Number	1	3	4	8	1	13	0	14
Rate	60	90	2,222	154	64	361	0	257
Standardised rate	68	105	2,909	416	63	505	0	331
Standardised ratio	85	60	105	70	79	86	0	77
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	1	21	7	29	1	5	1	7
Rate	60	628	3,889	559	64	139	378	129
Standardised rate	56	888	3,833	1,041	63	175	345	182
Standardised ratio	134	99	204	117	125	29	42	35
280–289 diseases of blood and blood-forming organs								
Number	0	0	0	0	0	3	2	5
Rate	0	0	0	0	0	83	756	92
Standardised rate	0	0	0	0	0	150	652	206
Standardised ratio	0	0	0	0	0	44	282	64

Table 32: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
740–759 congenital anomalies								
Number	4	0	0	4	2	2	0	4
Rate	240	0	0	77	127	56	0	74
Standardised rate	226	0	0	49	127	36	0	48
Standardised ratio	129	0	0	88	148	136	0	135
760–779 certain conditions originating in the perinatal period								
Number	0	0	0	0	0	0	0	0
Rate	0	0	0	0	0	0	0	0
Standardised rate	0	0	0	0	0	0	0	0
Standardised ratio	0	0	0	0	0	0	0	0

Table 33 shows that the commonest causes of consultation in Caribbeans were similar to other ethnic groups. The most surprising findings were that the rate of consultation for mental disorders was not high, that consultation rates for circulatory diseases were greater in women than men, and that consultations for neoplasms were low.

Table 33: General practice consultation statistics for Caribbeans. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	866	1,715	275	2,856	795	3,929	256	4,980
Rate	35,788	31,443	63,836	34,389	32,751	59,443	68,252	52,910
Standardised rate	3,6329	32,203	68,878	36,811	32,318	59,424	63,131	54,680
Standardised ratio	99	111	108	107	102	108	105	106
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	123	244	38	405	112	1,124	31	1,267
Rate	5,083	4,474	8,821	4,877	4,614	17,005	8,265	13,461
Standardised rate	5,220	4,461	7,948	4,980	4,490	15,713	7,080	12,012
Standardised ratio	115	108	133	112	98	116	110	113
460–519 diseases of the respiratory system								
Number	309	277	30	616	268	424	26	718
Rate	12,770	5,079	6,964	7,417	11,041	6,415	6,932	7,628
Standardised rate	12,937	4,985	7,602	7,013	10,938	6,193	6,244	7,143
Standardised ratio	113	135	101	123	110	107	93	108

Table 33: Continued.

580–629 diseases of the genito-urinary system								
Number	20	30	9	59	19	362	7	388
Rate	827	550	2,089	710	783	5,477	1,866	4,122
Standardised rate	835	541	2,012	755	776	5,318	1,791	3,815
Standardised ratio	138	151	177	149	95	119	91	117
780–799 symptoms, signs and ill-defined conditions								
Number	79	134	19	232	85	248	24	357
Rate	3,265	2,457	4,410	2,794	3,502	3,752	6,399	3,793
Standardised rate	3,313	2,622	4,063	2,920	3,454	3,790	5,924	4,088
Standardised ratio	129	173	153	153	139	146	133	144
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	12	166	17	195	11	293	26	330
Rate	496	3,043	3,946	2,348	453	4,433	6,932	3,506
Standardised rate	490	3,058	4,042	2,587	456	5,055	6,341	4,362
Standardised ratio	120	116	117	117	96	121	113	118
680–709 diseases of the skin and subcutaneous tissue								
Number	71	122	9	202	92	217	8	317
Rate	2,934	2,237	2,089	2,432	3,790	3,283	2,133	3,368
Standardised rate	2,990	2,218	3,016	2,470	3,732	3,051	1,892	2,988
Standardised ratio	100	110	53	103	115	120	109	118
001–139 infectious and parasitic diseases								
Number	86	72	10	168	73	191	2	266
Rate	3,554	1,320	2,321	2,023	3,007	2,890	533	2,826
Standardised rate	3,617	1,257	2,464	1,903	2,984	2,694	522	2,380
Standardised ratio	102	120	135	111	89	119	63	107
390–459 diseases of the circulatory system								
Number	0	163	50	213	0	208	55	263
Rate	0	2,988	11,607	2,565	0	3,147	14,663	2,794
Standardised rate	0	3,027	10,493	3,107	0	3,881	13,638	4,777
Standardised ratio	0	143	119	135	0	167	125	155
800–999 injury and poisoning								
Number	60	153	8	221	37	203	9	249
Rate	2,480	2,805	1,857	2,661	1,524	3,071	2,399	2,646
Standardised rate	2,453	2,906	1,942	2,708	1,518	2,918	2,367	2,546
Standardised ratio	128	127	152	129	92	122	98	114
320–389 diseases of the nervous system and sense organs								
Number	80	98	10	188	73	152	12	237
Rate	3,306	1,797	2,321	2,264	3,007	2,300	3,199	2,518
Standardised rate	3,381	1,834	3,381	2,333	2,973	2,442	2,842	2,616
Standardised ratio	68	93	56	78	72	103	107	92

Table 33: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	16–64 (399)	65+ (19)	All ages (650)	0–15 (242)	16–64 (320)	65+ (8)	All ages (570)
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	1	67	15	83	5	143	31	179
Rate	41	1,228	3,482	999	206	2,164	8,265	1,902
Standardised rate	43	1,332	3,284	1,242	196	2,800	7,467	3,081
Standardised ratio	93	149	251	164	79	159	242	165
290–319 mental disorders								
Number	5	85	15	105	0	146	14	160
Rate	207	1,558	3,482	1,264	0	2,209	3,733	1,700
Standardised rate	206	1,817	4,230	1,702	0	2,308	4,318	2,193
Standardised ratio	77	81	180	88	0	97	129	93
520–579 diseases of the digestive system								
Number	12	96	26	134	13	101	3	117
Rate	496	1,760	6,035	1,614	536	1,528	800	1,243
Standardised rate	509	1,994	5,523	2,020	516	1,615	706	1,242
Standardised ratio	103	135	199	135	77	99	53	93
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	0	58	0	58
Rate	0	0	0	0	0	878	0	616
Standardised rate	0	0	0	0	0	729	0	460
Standardised ratio	0	0	0	0	0	109	0	108
140–239 neoplasms								
Number	1	6	6	13	2	28	4	34
Rate	41	110	1,393	157	82	424	1,066	361
Standardised rate	41	115	1,065	194	83	467	1,014	484
Standardised ratio	57	46	95	56	101	78	119	83
280–289 diseases of blood and blood-forming organs								
Number	0	0	13	13	2	29	1	32
Rate	0	0	3,018	157	82	439	267	340
Standardised rate	0	0	7,812	786	83	427	246	328
Standardised ratio	0	0	152	32	139	255	96	224
740–759 congenital anomalies								
Number	4	2	0	6	2	2	3	7
Rate	165	37	0	72	82	30	800	74
Standardised rate	167	37	0	62	80	24	738	157
Standardised ratio	124	120	0	119	94	73	527	99
760–779 certain conditions originating in the perinatal period								
Number	3	0	0	3	1	0	0	1
Rate	124	0	0	36	41	0	0	11
Standardised rate	128	0	0	28	39	0	0	8
Standardised ratio	155	0	0	154	66	0	0	59

Table 34 shows that the overall consultation patterns for Africans were as described for other groups, with an excess, overall, of 11% in men and 8% in women compared to the whole population. The numbers of consultations for each specific cause were too small to sustain a reliable comparison.

Table 34: General practice consultation statistics for Africans. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				**Women (No. of people)**			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	348	376	14	738	328	1,226	45	1,599
Rate	38,782	23,329	140,000	29,297	32,243	58,584	68,340	50,349
Standardised rate	38,244	23,763	140,000	32,465	31,144	59,633	68,252	54,619
Standardised ratio	112	110	126	111	108	108	105	108
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	62	54	2	118	61	387	2	450
Rate	6,909	3,350	20,000	4,684	5,996	18,493	3,037	14,170
Standardised rate	6,726	4,118	20,000	5,455	5,823	17,848	4,591	13,760
Standardised ratio	141	114	302	127	133	116	81	119
460–519 diseases of the respiratory system								
Number	117	76	2	195	129	154	3	286
Rate	13,039	4,715	20,000	7,741	12,681	7,359	4,556	9,006
Standardised rate	13,157	5,359	20,000	7,862	12,328	6,486	2,908	7,303
Standardised ratio	123	117	379	121	118	98	102	107
780–799 symptoms, signs and ill-defined conditions								
Number	18	25	3	46	22	102	7	131
Rate	2,006	1,551	30,000	1,826	2,163	4,874	10,631	4,125
Standardised rate	1,986	1,426	30,000	2,859	2,116	4,883	10,312	4,932
Standardised ratio	88	123	642	107	97	183	260	155
680–709 diseases of the skin and subcutaneous tissue								
Number	43	25	1	69	30	65	2	97
Rate	4,792	1,551	10,000	2,739	2,949	3,106	3,037	3,054
Standardised rate	4,682	1,301	10,000	2,493	2,731	2,445	2,157	2,472
Standardised ratio	168	97	772	133	70	114	200	100
580–629 diseases of the genito-urinary system								
Number	4	2	1	7	5	87	0	92
Rate	446	124	10,000	278	492	4,157	0	2,897
Standardised rate	419	81	10,000	612	469	3,333	0	2,338
Standardised ratio	105	25	1,647	76	72	103	0	99
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	2	27	0	29	1	83	4	88
Rate	223	1,675	0	1,151	98	3,966	6,075	2,771
Standardised rate	209	1,423	0	1,072	127	5,815	9,181	5,006
Standardised ratio	58	79	0	75	28	148	103	135

Table 34: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
001–139 infectious and parasitic diseases								
Number	34	25	0	59	30	55	2	87
Rate	3,789	1,551	0	2,342	2,949	2,628	3,037	2,739
Standardised rate	3,738	1,289	0	1,807	2,782	2,119	2,157	2,264
Standardised ratio	103	146	0	119	81	103	341	96
320–389 diseases of the nervous system and sense organs								
Number	37	30	0	67	26	56	3	85
Rate	4,123	1,861	0	2,660	2,556	2,676	4,556	2,676
Standardised rate	3,955	1,667	0	2,130	2,631	2,663	6,654	3,122
Standardised ratio	85	124	0	100	76	123	135	101
290–319 mental disorders								
Number	3	25	4	32	3	60	5	68
Rate	334	1,551	40,000	1,270	295	2,867	7,593	2,141
Standardised rate	315	1,913	40,000	3,270	251	3,853	7,034	3,463
Standardised ratio	155	163	1,579	170	105	121	116	120
800–999 injury and poisoning								
Number	14	29	0	43	10	43	6	59
Rate	1,560	1,799	0	1,707	983	2,055	9,112	1,858
Standardised rate	1,564	1,619	0	1,533	879	3,763	7,784	3,623
Standardised ratio	84	85	0	84	64	116	345	107
390–459 diseases of the circulatory system								
Number	0	14	0	14	0	35	11	46
Rate	0	869	0	556	0	1,672	16,705	1,448
Standardised rate	0	1,029	0	739	0	2,344	15,475	3,381
Standardised ratio	0	69	0	64	0	98	98	96
520–579 diseases of the digestive system								
Number	9	38	0	47	3	35	0	38
Rate	1,003	2,358	0	1,866	295	1,672	0	1,197
Standardised rate	943	2,229	0	1,825	265	1,438	0	1,022
Standardised ratio	112	170	0	152	61	138	0	118
140–239 neoplasms								
Number	0	2	0	2	0	10	0	10
Rate	0	124	0	79	0	478	0	315
Standardised rate	0	92	0	66	0	513	0	345
Standardised ratio	0	86	0	66	0	51	0	43
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	0	28	0	28
Rate	0	0	0	0	0	1,338	0	882
Standardised rate	0	0	0	0	0	917	0	616
Standardised ratio	0	0	0	0	0	98	0	97
280–289 diseases of blood and blood-forming organs								
Number	1	2	0	3	4	6	0	10
Rate	111	124	0	119	393	287	0	315
Standardised rate	105	121	0	112	356	259	0	249
Standardised ratio	210	759	0	398	625	152	0	231

Table 34: Continued.

240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	1	1	1	3	1	18	0	19
Rate	111	62	10,000	119	98	860	0	598
Standardised rate	129	55	10,000	525	127	824	0	581
Standardised ratio	243	27	1,189	71	197	134	0	129
740–759 congenital anomalies								
Number	3	1	0	4	3	2	0	5
Rate	334	62	0	159	295	96	0	157
Standardised rate	315	41	0	103	258	132	0	143
Standardised ratio	242	208	0	232	330	236	0	280
760–779 certain conditions originating in the perinatal period								
Number	0	0	0	0	0	0	0	0
Rate	0	0	0	0	0	0	0	0
Standardised rate	0	0	0	0	0	0	0	0
Standardised ratio	0	0	0	0	0	0	0	0

Table 35 shows that the white population had, overall, an excess in consultation rates of 8% for men and 5% for women.

Table 35: General practice consultation statistics for Whites. Rates are per 10,000 patient-years at risk.

	Men (No. of people)				**Women (No. of people)**			
	0–15 (232)	**16–64 (399)**	**65+ (19)**	**All ages (650)**	**0–15 (242)**	**16–64 (320)**	**65+ (8)**	**All ages (570)**
All diseases								
Number	147,651	339,176	134,810	621,637	146,173	656,481	214,701	101,7355
Rate	34,335	28,909	56,490	33,749	35,540	51,639	60,925	49,993
Standardised rate	34,178	28,536	56,594	33,135	35,455	51,723	60,998	50,080
Standardised ratio	103	111	105	108	103	105	104	105
VO1–V82 supplementary classification of factors influencing health status and contact with health services								
Number	18,432	51,588	14,669	84,689	19,868	16,3997	21,992	20,5857
Rate	4,286	4,397	6,147	4,598	4,831	12,900	6,241	10,116
Standardised rate	4,248	4,341	6,158	4,539	4,807	13,102	6,248	10,286
Standardised ratio	102	112	107	109	103	107	107	106
460–519 diseases of the respiratory system								
Number	47,998	49,592	19,300	116,890	44,471	83,262	24,510	152,243
Rate	11,162	4,227	8,087	6,346	10,813	6,549	6,955	7,481
Standardised rate	11,111	4,207	8,104	6,175	10,787	6,560	6,950	7,465
Standardised ratio	103	113	106	108	103	108	105	106
710–739 diseases of the musculo-skeletal system and connective tissue								
Number	2,114	39,784	13,130	55,028	2,219	51,051	26,997	80,267
Rate	492	3,391	5,502	2,988	540	4,016	7,661	3,944
Standardised rate	495	3,312	5,501	2,963	542	3,953	7,657	3,909
Standardised ratio	105	113	107	111	106	107	106	107

Table 35: Continued.

	Men (No. of people)				Women (No. of people)			
	0–15 (232)	16–64 (399)	65+ (19)	All ages (650)	0–15 (242)	16–64 (320)	65+ (8)	All ages (570)
580–629 diseases of the genito-urinary system								
Number	2,565	6,152	3,851	12,568	3,741	66,142	8,402	78,285
Rate	596	524	1,614	682	910	5,203	2,384	3,847
Standardised rate	594	518	1,619	667	911	5,204	2,389	3,872
Standardised ratio	104	114	108	110	105	108	106	108
320–389 diseases of the nervous system and sense organs								
Number	21,503	24,163	10,637	56,303	21,293	36,583	15,576	73,452
Rate	5,000	2,059	4,457	3,057	5,177	2,878	4,420	3,609
Standardised rate	4,971	2,037	4,465	2,966	5,160	2,866	4,432	3,589
Standardised ratio	105	113	108	109	105	108	107	107
780–799 symptoms, signs and ill-defined conditions								
Number	11,372	18,598	8,482	38,452	11,740	35,965	15,436	63,141
Rate	2,644	1,585	3,554	2,088	2,854	2,829	4,380	3,103
Standardised rate	2,633	1,566	3,572	2,039	2,848	2,829	4,401	3,101
Standardised ratio	102	111	104	107	102	106	104	105
390–459 diseases of the circulatory system								
Number	130	26,299	26,597	53,026	127	25,089	36,642	61,858
Rate	30	2,242	11,145	2,879	31	1,974	10,398	3,040
Standardised rate	30	2,107	11,150	2,743	31	1,914	10,406	2,991
Standardised ratio	99	111	106	108	102	108	105	106
680–709 diseases of the skin and subcutaneous tissue								
Number	12,564	24,574	6,979	44,117	13,077	34,784	10,742	58,603
Rate	2,922	2,095	2,924	2,395	3,180	2,736	3,048	2,880
Standardised rate	2,913	2,093	2,930	2,372	3,174	2,748	3,052	2,884
Standardised ratio	104	113	107	110	103	108	106	106
001–139 infectious and parasitic diseases								
Number	15,833	15,046	2,748	33,627	16,684	31,995	4,875	53,554
Rate	3,682	1,282	1,152	1,826	4,057	2,517	1,383	2,632
Standardised rate	3,665	1,300	1,154	1,796	4,046	2,550	1,385	2,648
Standardised ratio	104	114	107	108	104	109	106	107
290–319 mental disorders								
Number	1,293	20,674	4,295	26,262	1,088	38,510	11,180	50,778
Rate	301	1,762	1,800	1,426	265	3,029	3,173	2,495
Standardised rate	300	1,760	1,809	1,449	265	3,015	3,182	2,498
Standardised ratio	105	112	104	110	104	108	104	107
800–999 injury and poisoning								
Number	8,753	30,286	4,932	43,971	7,055	29,477	11,269	47,801
Rate	2,035	2,581	2,067	2,387	1,715	2,319	3,198	2,349
Standardised rate	2,038	2,599	2,081	2,415	1,717	2,317	3,219	2,352
Standardised ratio	104	114	106	110	104	108	105	106

Table 35: Continued.

520–579 diseases of the digestive system								
Number	2,961	17,310	7,646	27,917	2,721	23,431	11,080	37,232
Rate	689	1,475	3,204	1,516	662	1,843	3,144	1,830
Standardised rate	685	1,455	3,211	1,499	660	1,832	3,151	1,825
Standardised ratio	104	113	106	110	105	108	106	107
240–279 endocrine, nutritional and metabolic diseases, and immunity disorders								
Number	286	9,611	5,547	15,444	378	16,715	8,583	25,676
Rate	67	819	2,324	838	92	1,315	2,436	1,262
Standardised rate	66	786	2,319	814	92	1,290	2,417	1,245
Standardised ratio	99	112	106	109	104	108	106	107
140–239 neoplasms								
Number	436	4,127	4,478	9,041	487	7,503	4,353	12,343
Rate	101	352	1,876	491	118	590	1,235	607
Standardised rate	102	342	1,879	474	119	582	1,235	602
Standardised ratio	105	113	100	107	109	106	102	105
630–679 complications of pregnancy, childbirth and the puerperium								
Number	0	0	0	0	46	7,896	13	7,955
Rate	0	0	0	0	11	621	4	391
Standardised rate	0	0	0	0	11	643	4	409
Standardised ratio	0	0	0	0	91	112	116	112
280–289 diseases of blood and blood-forming organs								
Number	352	751	1,373	2,476	371	3,225	2,756	6,352
Rate	82	64	575	134	90	254	782	312
Standardised rate	82	61	579	128	90	251	787	311
Standardised ratio	104	112	104	106	104	106	104	105
740–759 congenital anomalies								
Number	737	619	144	1,500	458	825	292	1,575
Rate	171	53	60	81	111	65	83	77
Standardised rate	170	53	60	79	111	65	83	77
Standardised ratio	103	115	111	108	100	109	106	105
760–779 certain conditions originating in the perinatal period								
Number	322	2	2	326	349	31	3	383
Rate	75	0	1	18	85	2	1	19
Standardised rate	74	0	1	16	84	3	1	18
Standardised ratio	104	135	77	103	103	111	119	104

Other studies have found that consultations with general practitioners are higher amongst Asians (the term 'Asian' has usually not been clearly defined) and increase with age.[143,146,147] It is not possible to determine whether these patterns reflect differences in morbidity and need, varying thresholds and perceptions of illness, differential uptake of services, or a combination of these factors.

Higher GP contact rates may also reflect socio-economic disadvantage, and variation in the quality of care offered to minority ethnic groups, for example, poorer communication within, and outcomes from, consultations from patients' perspectives[86]; the location of many ethnic populations within inner city areas where primary care may be less well developed and under-resourced[16,138]; provision of care insensitive to differing cultural needs; or care based upon stereotypes and negative attitudes about minority groups.[47,148–50]

Ethnic preferences for health professionals

The recent Policy Studies Institute survey[84] found that 40% of Pakistani and Bangladeshi respondents, a third of Chinese and Indian respondents, and under 25% of other ethnic groups including whites surveyed preferred to see a doctor of their own ethnic origin. This preference was much more pronounced for those who spoke limited or no English, and among women who were white, Pakistani, Bangladeshi or Indian. The linguistic and cultural concordance between the patient and GP is more important in the choice of GP than the sex of the GP.[151] Opportunities for Caribbeans to consult a Caribbean GP appear very limited – less than 1% of survey respondents had had access to the latter.[86]

Gender preferences for health professionals

Except for Pakistani men, most men from minority ethnic groups do not appear to express a preference to see a doctor of the same gender.[84] However, women from all minority ethnic groups (except the Chinese) appear more likely than white women to prefer to consult a female doctor.[84] This was the case for Pakistani and Bangladeshi women in particular (75% and 83%, respectively, preferring to see a female doctor) in the recent PSI survey and probably reflects the cultural and religious traditions of Muslim groups.

Although there may be a tendency to overstate the problems of consulting a male GP,[148,152] some Muslim women are reluctant to see a male doctor where physical, and especially gynaecological, examination may be involved.[151,153] The preferences of many minority ethnic women, particularly from South Asian groups, to consult a female doctor of similar ethnicity are currently unlikely to be met.[86] It has been suggested that 'linguistic concordance' again may become more important than gender for some women in this context. Any embarrassment caused through examination by a male doctor may be reluctantly tolerated because of the potential benefit of improved communication with a doctor of similar ethnicity.[151]

Although there is a lack of available information, opportunities to choose health professionals of the same gender and ethnicity appear limited. It is therefore likely that for most women, including those from the BMEGs, the process and quality of current health consultations may be compromised and, for example, result in underreporting of gynaecological, sexual and other women's health issues.

Secondary care services

As routine data of sufficient quality are not available, it is not possible to provide hospital utilisation rates. However Balarajan *et al.* (1991)[154] note that, after adjusting for socio-economic factors, there appears to be no significant association between ethnic group and hospital utilisation amongst males, though Pakistani

females (age 6–44 years) had higher utilisation rates than whites. This overall similarity in hospital utilisation is also supported by Nazroo[84] (**Table 36**) (with the exception of Chinese respondents, who reported lower utilisation). The data also show the expected rise in admission rate, with poorer perceived health amongst all ethnic groups.

Table 36: Hospital inpatient stays in the past year by self-assessed general health.

	White	Caribbean	Indian or African Asian	Pakistani or Bangladeshi	Chinese
Stayed overnight as a hospital inpatient in the last year					
Good/excellent health	7	7	6	7	6
Fair health	16	13	11	14	7*
Poor/very poor health	30	31	31	28	9*
Weighted base	*2,863*	*1,560*	*2,081*	*1,141*	*390*
Unweighted base	*2,856*	*1,197*	*1,992*	*1,769*	*214*

* Small base numbers in the cell make the estimate unreliable.
Cell percentages: age and gender-standardised.
Source: Nazroo 1997[84]

As noted earlier, differences in GP consultation rates between minority ethnic groups and whites are larger than for hospital admission rates, raising the possibility that higher levels of illness among minority groups are not translated into higher admission rates.

GP referrals

GP referral rates vary enormously and are notoriously difficult to disentangle.[155] Some studies have pointed to possible inequities in relation to referral for cardiovascular disease but others have shown no population bias. Differences in referral delay to tertiary cardiovascular services between white and South Asian patients have been suggested.[156] Compared to the white population, South Asians with chronic chest pain may be less likely to be referred for exercise testing and wait longer to see a cardiologist or to have angiography.[157] The barriers do not appear to be a result of patients' interpretations of symptoms or their willingness to seek care. Other factors, related to services and communication with health professionals, might be contributing to inequality of experience.[158] Pending larger scale representative research into these issues, there is a need to ensure equity of services.

Ethnic workforce

There is a dearth of literature and data on the ethnic origin of general practitioners and what is available is from routine statistics and one-off surveys, and has used proxy measures for recording ethnic group, i.e. country of qualification.

Table 37 shows that 16% of GPs have qualified from outside the European Economic Area. The unequal geographical distribution of GPs is well documented,[159] which is particularly marked for overseas qualified GPs. A high proportion of the latter reside within London, West Midlands and the North West. A smaller proportion is found in the South Eastern and Western regions.

Many of these overseas qualified doctors are working in smaller practices, particularly single-handed practices, and are concentrated within conurbations (**Table 37**).[160]

Table 37: Unrestricted principals by country of first qualification (October 1999).

Region	UK	EEA*	Elsewhere	Total
Northern & Yorkshire	3,019	110	463 (13)	3,592
Trent	2,305	75	398 (14)	2,773
Eastern	2,461	118	377 (13)	2,956
London	2,518	167	1,262 (32)	3,947
South Eastern	4,199	141	439 (9)	4,779
South Western	2,912	60	69 (2)	3,041
West Midlands	2,175	79	639 (22)	2,893
North West	2,769	109	727 (20)	3,605
England Total	22,358	859	4,374 (16)	27,591

Source: NHSE Headquarters. Statistics (Workforce) GMS. Leeds, 1999 (http://www.doh.gov.uk/public/gandpmss99.htm)
* European Economic Area.

Table 38 shows the data that is available by ethnic group for hospital medical staff and BMEG doctors form a third of the hospital workforce.

Table 38: All hospital medical staff by ethnic origin (England at 30 September 1999).

All ethnic groups	No.	%
White	42,777	67.3
Black	2,412	3.8
Caribbean	390	0.6
African	1,480	2.3
Other	542	0.9
Asian	11,760	16.8
Indian	8,781	13.8
Pakistani	1,565	2.5
Bangladeshi	288	0.5
Chinese	1,036	1.6
Any other ethnic group	5,307	8.4
Not known	1,382	2.1
All	63,548	100

Source: Department of Health (http://www.doh.gov.uk/stats/d_results.htm)

Table 39 shows that 7% of the non-medical workforce are from minority ethnic groups.

Table 39: NHS Hospital and Community Health Services: non-medical staff ethnic origin at 30 September 1999 (England).

	White	Black	Asian	Other	Unknown
All non-medical staff	89.3	3.6	1.6	1.8	3.7
Nursing, midwifery and health visiting (qualified staff)	86.8	4.7	1.6	2.3	4.6
Scientific, therapeutic and technical staff	92.3	2.1	2.4	1.7	1.5
Health care assistants	90.6	4.6	1.5	1.7	1.7
Support staff	90.7	3.9	1.3	1.7	2.4
Ambulance staff	97.8	0.6	0.3	0.5	0.7
Administration and estates staff	92.9	2.5	1.8	1.1	1.7
Other staff	93.9	1.2	2.0	1.4	1.5

Source: Health and Personal Social Services Statistics, England (http://www.doh.gov.uk/public/sb0011.htm)

Figures should be treated with caution as they are based upon organisations reporting 90% or more valid ethnic codes for non-medical staff. Percentages were calculated from numbers of staff expressed as whole-time equivalents.

Bilingual services: interpreter, linkworker and advocate provision

Background

Access to, and use of, appropriate interpreting services is one of the most important health care needs identified by people from ethnic minorities themselves – for effective communication in health encounters.[150,161] Language barriers constitute major obstacles to care for certain ethnic groups, notably South Asian and Chinese populations, especially women and older people from these groups, and for patients from diverse refugee populations. Accurate data upon the proportion of different groups that cannot communicate in English are lacking.

Estimates of functional English literacy among ethnic groups are available.[162] More than a third of non-UK born (and non-UK educated) Bengali and Punjabi speakers were unable to complete a basic test of their name and address on a library card application form in a recent study.[162] In this study, almost three out of four of those born outside the UK were 'below survival level' for functional literacy.

In consultations in primary care, most Caribbean patients appear to share a language with their GP. As many as 80% of South Asian patients may register with a GP of the same or similar ethnicity to themselves[86] which may, at least in part, reflect attempts to reduce communication barriers in consultations. However, available literature is inconsistent on this issue.[138] Such opportunities appear to be much less available for Chinese patients.

However, sharing broad ethnic origin and language with a health professional does not necessarily guarantee a successful consultation. There is evidence that, as with the majority population, issues of gender, status and class, stereotyping and racism may still compromise open communication between patient and professional.[155,163,164] Among those from ethnic minorities who share a language with their GP, a higher proportion report problems with communication than among the English, suggesting wider aspects of communication are important.[86]

The PSI survey[84] found that of those who had difficulty communicating with their GP, less than 10% had had access to a trained interpreter in consultations, and 75% used a friend or relative to translate for

them. A third of respondents still felt their GP had not understood them. Similarly, only 30% of Pakistani and Bangladeshi respondents who had been admitted to hospital in the past year had received any form of trained bilingual assistance.

Definitions

Bilingual services can involve workers employed under a number of different titles and roles, which tend to be used interchangeably. They usually fall into a number of broad, **if often overlapping**, categories.

- **Interpreters**: Interpreters translate the meaning and function of messages exchanged between service user and service provider. In practice, many interpreters may play a role in explaining the significance within the patient's cultural context as well as the meanings of words and gestures. The interpreter's role is then to facilitate communication with appropriate cultural sensitivity.
- **Linkworkers or outreach workers**: In addition to interpreting, these workers may provide a more formal link between particular services and the service user, including provision of information about certain services and options. A linkworker may be able to bridge cultural gaps that may arise between patient and professional. This might involve, for example, explaining a patient's concerns in terms understandable to a health professional and relaying health advice in terms consistent with the patient's cultural values, health beliefs and knowledge. They may be employed by a variety of organisations including health authorities, NHS Trusts, local authorities, general practices, community organisations, and charities. However, few schemes are yet established as mainstream services. They have tended to be short-term and their funding opportunistic, so that effective sustained development and evaluation has been lacking.[165]
- **Advocates** – Advocates work from the premise that there is an unequal relationship between patient and health professional. They may fulfil both interpreter and linkworker functions but go beyond, facilitating linguistic and cultural communication to act on behalf of the service user to ensure that service providers know their views of, and preferences for, health care and services. The distinction between interpreter, linkworker and advocacy provision is not clear-cut.

  Many people have problems that overlap or go beyond the responsibilities of different statutory health and social care providers. Linkworkers and advocates can help in interactions with primary care teams, in outpatient clinics, local authority departments and benefits agencies and so on. From a client's perspective, these needs are inter-related and distinguishing between them may be artificial.
- **Language lines** – Telephone interpreter services are beginning to be introduced in some areas.[166] There is growing interest in using telephone language lines, where the interpreter is not physically present during the consultation. They may become useful in response to needs for 24-hour availability, the acute and demand-led nature of some services (particularly in primary care and A&E departments), and the immense diversity of languages in some localities.
- **Translation** – In addition to provision of interpreter and advocacy services, the translation of a wide range of information, for example about health services, health education, hospital menus, etc. is a further key requirement. This includes development and provision of appropriate information, in different media, that are accessible to those who cannot read or speak English.

Factors affecting service use

Provision of interpreting services in the UK is very variable.[167] Even where interpreting services have become established they may be underused by health professionals, who may be unaware of their existence, fail to publicise them appropriately to patients, or lack appropriate skills and training to work effectively

with interpreters. Some professionals may be reluctant to engage bilingual services in facilitating communication with patients who cannot speak English.[168]

From patients' perspectives there may be a reluctance to discuss sensitive subjects in the presence of a third party or concerns about confidentiality, particularly in relation to mental ill-health. Such problems are more likely if untrained interpreters or volunteers are used, or in the more common situation of a family member or relative being used as an interpreter. Mistranslation is also more likely in these contexts, adding further difficulty.[151,169]

Using members of the family as interpreters may introduce difficulties due to family relationships, emotional involvement, maturity of the relative concerned if a child, and so on.[170] Unfortunately, many health authorities and professionals have tended to rely upon such informal mechanisms for communication. It is increasingly regarded as unprofessional and unethical for family members, and particularly children, to be asked to interpret in health encounters.[168,171]

Current models for interpreting service provision

There are a wide variety of existing service models in the NHS for interpreter/advocacy provision. They are based upon different collaborations between HAs and Trusts and local authority or voluntary sector. Some services are centrally co-ordinated at HA level, others are organised at NHS Trust level or have been stimulated by specific service developments. Most appear to provide interpreter rather than dedicated advocacy services, or a mixture where staff sometimes fulfil advocacy roles.

Some HAs have attempted to establish minimum standards of comprehensive provision, while others provide neither co-ordinated nor apparently adequate provision.[167] Some continue to rely upon untrained volunteers or family members translating for patients. The range of elements variously include:

- full-time or sessional trained interpreters
- volunteer and ad hoc interpreters (e.g. minority ethnic health staff)
- patient advocates
- telephone interpreter services
- translation services for health service/education information
- bilingual health care staff.

Table 40 summarises the main characteristics of differing interpreting/advocacy/translation services provided in four selected health authorities.

Table 40: Summary of the main characteristics of interpreting, advocacy and translation services in four health authorities' studies.

Health authority	Key language groups catered for by the health authority	Health authority backed interpreter/ advocacy provision in primary care?	Interpreter/advocacy provision within acute hospitals?	Interpreter/advocacy provision within mental health? In community care?	Interpreter/ advocacy provision within obstetrics?	Translation provision
Birmingham	*Birmingham Health Authority*: Urdu, Mirpuri, Pahari, Punjabi, Sindhi, Pushto, Hindi, Gujarati, Kutchi, Bengali, Creole, Patois, Bangla, Sylheti, Arabic, Vietnamese, Cantonese, Hakka, Mandarin, Swahili, Hausa.	*Birmingham Health Authority*: Some general practices do not provide interpreting service provision; others, however, do. A pilot scheme is currently in operation whereby ethnic monitoring is undertaken in return for free authority funded provision.	*City Hospital NHS Trust*: Have paid professional interpreters. *The Royal Orthopaedic NHS Trust*: Use bilingual staff volunteers to provide service. *Birmingham Heartlands*: Have paid professional interpreters. *University Hospital Birmingham*: A professional service is provided. *Birmingham Children's Hospital*: £8,000 interpreting costs.	*Northern Birmingham Community Health NHS Trust*: The Trust uses paid professional interpreters. *Northern Birmingham Mental Health NHS Trust*: The Trust uses Express Interpreting and Translating Services. *South Birmingham Mental Health NHS Trust*: A professional service is provided. *South Birmingham Community*: A professional service is provided.	*South Birmingham Community NHS Trust*: Has provision as a result of the Asian mother and baby campaign. *Birmingham Women's Hospital*: A professional service is provided using linkworkers and interpreters.	There is a general lack of information about such provision.
Ealing, Hammersmith and Hounslow	*Ealing, Hammersmith and Hounslow Health Authority*: Urdu, Punjabi, Gujarati, Farsi, Somali, Turkish, Armenian, Albanian, Serbo-Croat, Arabic, Far Eastern, Eastern European languages, Kurdish, and Afghani. Some of those requiring provision are refugees.	*Ealing, Hammersmith and Hounslow Health Authority*: General practitioners are provided with a telephone interpreting service sponsored by the health authority, as well as some face to face interpreter provision.	*Ealing Hospitals NHS Trust*: The Trust employs an interpreter and employs other interpreters via an agency. *The Hammersmith Hospitals NHS Trust*: Provision is provided by Language Line and Hammersmith and Fulham Commission for Racial Equality.	*Hounslow and Spelthorne Community and Mental Health NHS Trust*: Have a bilingual support worker supporting five child health clinics a week, and provide interpreting support to the Department of Child and Adolescent Psychiatry, Health Visiting Services, Mental Health Services, and others. Language Line is also used a little.		*Ealing, Hammersmith and Hounslow Health Authority*: When translation is required, it tends to be needed for four major languages. However, the health authority infrequently provides leaflets and when it does these are not usually translated.

Table 40: Continued.

	West London Health Care Trust: Some agency and freelance interpreting is provided. *West Middlesex University Hospital*: A limited professional interpreting service is provided. *Language Line*: Provides services to the health authority.	*Riverside Mental Health Trust*: The Trust buys in interpreting services. *Riverside Community*: A professional service is used.	*Hounslow and Spelthorne Community and Mental Health NHS Trust*: Patient information, and mental health audio cassettes are translated into five Asian languages including Bengali, Somali, Arabic and Farsi, whilst health visiting leaflets are translated into Somali, Punjabi, Urdu. *West London Health care NHS Trust*: Obtain a limited amount of translation. *West Middlesex University*: Not clear. *The Riverside Mental Health Trust*: Not clear. *The Hammersmith Hospitals NHS Trust*: Three leaflets have been translated into Bengali, Urdu, Farsi, Arabic, Turkish, Polish, Greek, Spanish, Somali.

Table 40: Continued.

Health authority	Key language groups catered for by the health authority	Health authority backed interpreter/ advocacy provision in primary care?	Interpreter/advocacy provision within acute hospitals?	Interpreter/advocacy provision within mental health? In community care?	Interpreter/ advocacy provision within obstetrics?	Translation provision
Leicestershire	*Leicester Health Authority*: Urdu, Gujarati, Hindi, Punjabi, Bengali, Chinese, Polish, and other languages.	*Leicester Health Authority*: Primary care providers are encouraged to establish their own arrangements for the provision of interpreter services based upon health authority guidelines. Currently some provision is from the Fosse Trust.	*Leicester General*: The Trust use a combination of hospital volunteer interpreters, professional agency interpreters, Language Line and hospital employed linkworkers in maternity. *Leicester Royal Infirmary*: The trust has its own interpreters. It also has the use of professional trained interpreters. It has access to Language Line via the Fosse NHS Trust. *Glenfield NHS Trust*: Provision is concentrated in cardiology. Some secondary provision is provided by provider units, and Language Line is sometimes used. Generally, though, professional provision is lacking as expenditure in this area is low.	*Leicester Mental Health Service NHS Trust*: Has two interpreters with a command of seven different languages. *Fosse Community NHS Trust*: The Trust obtains interpreting provision from the Ujala Resource Centre.	*Leicester General Hospital*: Identified obstetrics as a major speciality user. *Leicester General NHS Trust*: There are linkworkers earmarked for maternity.	*Health authority*: There is a general lack of translation provision at health authority level. Health authority projections suggest that £500,000 would be required to provide what is regarded as 'adequate' provision. *Leicester General Hospital*: Not clear. *Leicester Royal Infirmary*: Not clear.
Newcastle and North Tyneside	*Newcastle and North Tyneside Health Authority*: Bengali, Sylheti, India, Pakistani, Punjabi, Urdu, Hindi, Chinese, Hakka, Mandarin, Serbo-Croat, Arabic, Farsi, French, Italian, and others.	*Newcastle Interpreting Service*: Provision to primary care sector is the largest sector now that the health authority sponsors provision.	*Newcastle Interpreting Service*: Trusts obtain trained interpreters via the 'Newcastle Interpreting Service for Health and Social Services'. All Trusts within the health authority encourage the use of professional interpreting provision from this service.	*Newcastle Interpreting Service*: Interpreters are trained to operate in a Mental Health context as required.	*Newcastle Interpreting Service*: Provision to obstetrics is not discernibly different.	*Newcastle and North Tyneside Health Authority*: There is a patchy provision of leaflets. It was considered that more use of audio material is required due to a lack of written skills. *Newcastle City Health NHS Trust*: Not clear.

Important note: The sources of the information are indicated in *italics*.
Source: adapted from Clark 1998[167]

Preventive care

Childhood immunisation

Uptake of childhood immunisation appears similar to or higher among most ethnic minority groups, particularly South Asian groups, than the majority population.[172–5] Socio-economic or communication difficulties might, paradoxically, contribute to higher levels of immunisation amongst some ethnic minorities when fears about safety may have dissuaded parents from other white groups from having their children immunised.[174]

Cervical and breast screening

Again, there is no routine ethnic monitoring within the cancer screening services, and data are available only from a number of local studies. Further, as not all studies have taken account of socio-economic factors, interpretation of such information must be guarded.

Existing evidence about uptake of cervical screening amongst ethnic minority groups is equivocal. Although uptake has generally been found to be low (and knowledge about cervical smears to be poor),[176–8] more recent studies have found similar rates to the majority population.[148,179] However, uptake amongst South Asian women appears consistently lower and this has been attributed to poorer knowledge and greater population mobility.[148,176,180]

Lack of basic accessible information about cervical smears, and cultural attitudes and beliefs have been suggested as dominant reasons for low uptake.[86,176,178,181] Such research has been criticised for promulgating unhelpful generalisations and stereotypes of minority ethnic women in failing to acknowledge the dynamic nature of minority ethnic groups, and their experiences of racism and inequalities within health services. This work has also been questioned for advancing too simplistic a focus upon improving information to increase uptake of screening.[182]

Available evidence about uptake of breast screening is again equivocal but suggests lower uptake amongst minority ethnic populations compared to white women.[183,184] At the practice level, no significant difference between screening rates and ethnicity exist.[180,185] This is supported by studies using individual level data.[186,187]

Health promotion and education

Provision of health promotion services is usually encompassed as part of health promotion units' general role, working from district or locality bases resourced by health and/or local authorities. Some have designated workers with an ethnic minority brief. Some NHS Trusts have their own dedicated units or a service may be part of a local linkworker scheme that may support particular clinical service areas (for example CHD, diabetes or sexual health). These services may typically provide some of the following:

- sources of translated written and audio-visual material
- development/dissemination of accessible and appropriate information in suitable media
- raising of community awareness of health issues
- health promotion initiatives and events in community settings.

There is a lack of information about utilisation of such services but, anecdotally, uptake of such services is in general perceived to be low.

Other community health services

There are few available data concerning the use of community health services outside general practice. Studies limited to some minority ethnic groups have found generally lower use of, or receipt of care from, community nursing[188,189] and dental and chiropody services.[190] A more recent study found white respondents were more likely to have made use of most other services (**Table 41**), although there was generally little variation among ethnic groups.[84]

Table 41: Other health and social services used in the past year (cell percentages).

	White	Caribbean	Indian	African Asian	Pakistani	Bangladeshi	Chinese
% who have used the service							
Dentist	62	53	45	46	50	25	47
Physiotherapist	9.0	6.5	5.8	4.1	3.9	0.6	7.9
Psychotherapist	1.1	0.7	0.5	0.8	0.8	0.6	1.3
Alternative practitioner	5.7	2.9	1.7	3.0	1.3	0.6	3.8
Health visitor or District Nurse	7.4	8.7	4.2	4.1	4.8	6.9	6.8
Social worker	3.8	5.2	2.2	1.1	1.7	1.7	2.5
Home help	2.1	1.0	0.3	0.1	1.8	0.8	0
Age- and gender-standardised	0.7	0.9	0.2		1.7		0
Meals on wheels (age 65+)	3.2	1.8	0	*	3.1*	*	*
Age- and gender-standardised	2.2	1.7	0		2.0		*
Other	6.9	4.4	1.2	2.9	1.3	2.7	2.3
Weighted base	*2,863*	*777*	*646*	*390*	*417*	*138*	*195*
Unweighted base	*2,862*	*609*	*638*	*348*	*578*	*289*	*104*

* Small base numbers in the cell make the estimate unreliable.
Source: Nazroo 1997[84]

However, use of dentists by minority ethnic groups appears considerably lower than the white majority population, particularly amongst Bangladeshis.[84] There is growing concern about oral health in minority communities, particularly among children, and early evidence that different approaches for preventive dentistry may be required among Asian populations.[191,192]

The limited evidence available suggests that use of complementary or alternative therapies (including, for example, use of hakims, Ayurvedic remedies) in minority ethnic communities tends to be additional to rather than alternative to NHS service use – as with the majority population.[85,193] It is also important to note the increasing trend to consult practitioners of alternative medicine within the general population.[194] There appears to be no identifiable good evidence that some minority ethnic communities may be particularly likely to seek treatment when overseas (e.g. visiting relatives).

Local authority, community and voluntary services

Local authorities (LAs) provide a range of services important to the health of minority ethnic communities. Recent initiatives have often developed from Community Care legislation creating certain statutory responsibilities for some groups. In addition, some LAs have mobilised joint finance initiatives or used Single Regeneration Budget projects to stimulate both service provision and community development for ethnic minorities. There is considerable variation between localities, but provision may include services for: people with mental ill-health; older people (including day and respite care, and residential services); adults and children with disabilities; carers; refugees; and people with HIV and AIDS. A wide range of examples of service strategies, initiatives and provision are detailed in a variety of LA reports available centrally from LARRIE, Layden House, 76–86 Turnmill St, London EC1M 5QU.

Many local authorities have been considerably more proactive than statutory health agencies in developing and implementing standards for good practice in service provision for minority ethnic communities, including appropriate training for social workers, teachers and other staff. However, in general, there appears to be underutilisation of services such as home care support and meals on wheels by minority ethnic communities.[84]

LAs often play a key role in supporting provision for ethnic minorities in the voluntary and community group sector, sometimes including delivery of specific social care services (see, for example, Wandsworth Social Care Provider Project, 1996 – available from LARRIE).

Voluntary sector provision is, in general, provided by people from ethnic minorities, with less secure funding, and there is evidence that currently the more mainstream voluntary sector has yet to cater for black people.[195] Although there are many active and thriving voluntary and community organisations, it has been argued that some minority ethnic communities may not be able to provide the degree of support some of their members may require: few people from ethnic minorities report attending community groups and associations other than religious ones, and these did not prevent feelings of isolation.[196,197]

Specific services

Details for all diseases and conditions are not provided, except for the haemoglobinopathies, due in part to lack of data. Pertinent issues for specific conditions are mentioned to highlight the provision and uptake of services amongst these groups.

In general, amongst South Asians and Afro-Caribbeans, current provision of renal replacement therapy for end stage renal failure is inadequate given the higher prevalence in these groups.[198] This is of concern, as the transplantation services cannot meet the growing need for organs with over 6556 waiting for a suitable organ, of which 9.7% are from the BMEGs.[199] This problem is compounded by tissue typing incompatibility between the Asian and other ethnic groups, so that Asians have to wait longer for suitable organs.[200]

It is also noted that there is low uptake of cardiac rehabilitation services by minority ethnic communities.[201]

Amongst the palliative care community, there is a belief that minority ethnic communities do not use their services.[202,203] This cannot be substantiated as there is lack of reliable data on usage of palliative services by BMEGs.

Haemoglobinopathies

Beta-thalassaemia is characterised by severe anaemia and usually diagnosed in early childhood.[204,205] Patients require regular blood transfusion and iron chelation therapy to minimise iron overload – the sequelae of which lead to death. The goals of transfusion include correction of anaemia, suppression of erythropoesis, and inhibition of gastrointestinal absorption of iron. Transfusion regimens which achieve these goals in addition to relatively lower rates of iron accumulation are now advocated.[206]

Prognosis is improving and most with severe disorder live to their mid-thirties. Indeed, those who find a suitable bone marrow donor and do not show pathological changes related to the disease or its treatment can be considered to be 'cured'.[207]

Symptoms for sickle cell disease can start between 3–6 months of age and result in anaemia and painful thrombotic episodes – some producing permanent disability.[208] Life-threatening complications include acute chest syndrome, stroke, and splenic or hepatic sequestration.[209] They also have increased risk of sudden death secondary to infection, so that prophylactic penicillin is required, especially during the first five years of life. Life expectancy for sickle cell anaemia has increased, with median survival of 42 years in men and 48 years in women.[210]

Although services for these patients are available, they are delivered inadequately and inequitably, particularly the screening and counselling services.[211]

Racism in service delivery

In consulting minority ethnic patients about their health needs, the experience of negative or prejudiced attitudes of professionals and services is commonly highlighted.[139] This demands broad social and institutional change, but it underlines the need to sensitise professionals to issues of prejudice, stereotyping and racism, and to address their attitudes to others through appropriate training.[168,212] Different forms of racism may occur.[138]

- **Direct racism**: Where a health worker treats a person less favourably simply by virtue of the latter's ethnicity.
- **Indirect or institutional racism**: Where, although ostensibly services are provided equally to all people, the form in which they are provided inevitably favours particular groups at the expense of others. For example, lack of provision of information in languages other than English or facilities to pray that are limited to those of Christian faith.
- **Ethnocentrism**: Where inappropriate assumptions are made about the needs of people from minority ethnic groups on the basis of the majority experience. For example, that the gender of the health professional is not important to the patient.

From the perspectives of patients, these forms often overlap, and result in discriminatory treatment. Racism has usefully been defined as 'prejudice plus power'.[197] Many minority ethnic patients' relative lack of power to contest assumptions and prejudices lends racism its force in their experience of health care. Interactions between health professionals and minority ethnic service users are as much shaped by broader social assumptions and stereotyping as by the existence of direct prejudice.[138]

Racism in health service delivery has been clearly described.[148,213–5] It remains a pervasive feature of wider society and public institutions, including the NHS.[216,217] Evidence about how racism affects interactions between NHS staff and minority ethnic users and patterns of service use or outcome is growing.[47,153,218,219] Ethnocentrism among health professionals, for example, has been shown to affect the experience of mental health services by minority ethnic users.[220] Illustrative examples are given below.

The interpretation of this research is difficult and varied.[138] Explanations offered for professionals' attitudes have included the social distance between the GPs and their patients,[217] the gap of culture and

communication between GPs and patients,[153] and the inner city context of many patients' problems.[219] Although direct racism is certainly present in the delivery of health care to minority ethnic populations, more complex problems also arise through difficulties of communication and ethnocentrism, which may also result in less satisfactory service provision.

The nature of institutional racism is more elusive, partly because of a lack of conceptual clarity about its meaning.[221] The recent McPherson inquiry highlighting this issue in the police service may add momentum for discussion and change within the NHS.[222] Common examples include lack of provision of interpreting services in NHS Trusts or primary care, and the failure of health authorities and others to provide information about services in appropriate media, so that minority ethnic populations are disadvantaged in terms of their ability to make use of them.

Costs of services for minority ethnic communities

General health services

We have been unable to locate any cost-effectiveness studies involving minority ethnic groups in the UK although there is an English Languages Difficulties Adjustment weighting in the recent resource allocation formula.[223]

Bilingual services: interpreter, linkworker and advocate provision

Available information from the published and 'grey literature' (including health authority and Trust reports) provides a range of crude cost estimates for some services.[167] Methods for modelling costs have been suggested, though their current limitations are acknowledged.[167] The necessary quality of data is lacking. In particular, there is a lack of data describing precise costs associated with procedures and conditions, or in linking consistent categories of ethnic group with epidemiological and operational service provision.

Accurate information on the utilisation and cost of such services is currently limited. The average hourly cost of providing trained interpreters in health contacts is estimated to be between £26 and £30 including training, management and infrastructure.[167] This work attempted to identify total costs for interpreting/advocacy and translation in the13 HAs that were studied. Costs are outlined in **Table 42** (for year 1997/98) by primary care, acute hospital sector, mental health/community trust sector, and total for acute sector. Key broad cost issues to consider are:

- the need for and use of bilingual, advocacy and translation services to facilitate access and effectiveness of generic services
- ethnic variation in the prevalence and cost of managing 'common' conditions
- incidence of conditions specific to minority ethnic groups
- the need for local community consultation and research to enable appropriate local services.

There is considerable variation in approaches adopted by different health authorities. Key points are the following.

- Certain activity requires funding to *initiate* service development and provision, and may not be directly related to population size.
- A recent review for the NHSE concluded that some additional costs can be identified and appear to be unavoidable.[224]

Table 42: Costs arising due to the provision of interpreter and translation services.

Health authority	Interpreter/ advocacy costs in primary care	Interpreter/ advocacy costs in acute hospitals	Interpreter/advocacy costs in mental health and community	Other interpreter/ advocacy costs	Total interpreter/ advocacy costs to the acute sector (i.e. excluding primary care)	Translation and other media (costs)
Birmingham	Not identified	*City Hospital NHS Trust*: The total cost of interpreting within the Trust was £131,126. *The Royal Orthopaedic Hospital NHS Trust*: Total cost for interpreting services was £674 (staff and volunteers are re-deployed from other departments). *Birmingham Heartlands NHS Trust*: Costs for employed interpreters/advocates are £32,017. *University Hospital Birmingham*: Provision costs £16,000.	*Northern Birmingham Community Health NHS Trust*: The total cost of interpreters was £67,725 (excluding advocacy costs). *North Birmingham Mental Health NHS Trust*: A professional service is provided via a contractual arrangement. *South Birmingham Mental Health NHS Trust*: A professional interpreting service is provided at a cost of £15,545. *South Birmingham Community*: £15,545.	*Birmingham Women's Hospital*: £49,835. *Birmingham Children's Hospital*: £37,000.	*City Hospital NHS Trust*: £131,126. *The Royal Orthopaedic Hospital*: £674. *Birmingham Heartlands NHS Trust*: £32,017. *University Hospital Birmingham*: £16,000. *Northern Birmingham Community Health NHS Trust*: The cost of three full-time interpreters was £42,725 + £25,000, which was the cost of the bank of interpreters = £67,725. *Northern Birmingham Mental Health NHS Trust*: £7,763. *South Birmingham Mental Health NHS Trust*: £15,545. *Birmingham Women's Hospital*: £49,835. *Birmingham Children's Hospital*: £37,000. *Total identifiable acute costs*: £357,685.	*City Hospital NHS Trust*: Data not provided. *The Royal Orthopaedic Hospital*: Data not provided. *Birmingham Heartlands NHS Trust*: Data not provided. *University Hospital Birmingham*: Data not provided. *Northern Birmingham Community Health NHS Trust*: Data not provided. *Northern Birmingham Mental Health NHS Trust*: Data not provided. *South Birmingham Mental Health NHS Trust*: Data not provided. *Birmingham Women's Hospital*: Data not provided. *Birmingham Children's Hospital*: Data not provided. *Total identifiable costs*: £0.

Table 42: Continued.

Bradford	A small proportion of the budget for Airedale NHS Trust is used to provide interpreting, but largely for one GP practice. (Likely to be around £30,000 – i.e. this is approximate allocation funded by GMS.)	*Bradford Hospitals NHS Trust*: £100,000 for a service based in paediatrics, maternity, antenatal and out-patients. *Airedale NHS Trust*: £29,600 for a service co-ordinator plus provision to the Women and Children's Directorate.	*Airedale NHS Trust*: Community provision costs £17,162 whilst mental health provision costs £49,000 + £2,000 = £68,162.	*Bradford Community Health Council Advocacy Service*: Ethnic minority advocacy service is employed at a cost of £25,000 per annum. *Bradford Community NHS Trust*: £132,000 is spent including family planning clinics, infant welfare clinics, dental clinics speech and language therapy, ante-natal clinics, and immex clinics. Allowing for £30,000 allocation costs to trusts are c.£102,000.	*Bradford Hospitals NHS Trust*: £100,000. *Airedale NHS Trust*: £95,792. *Bradford Community NHS Trust*: £102,000. *Bradford Community Health Council Advocacy Service*: £25,000. *Total identifiable acute costs*: £322,792.	*Bradford Health Authority*: Translation of the annual report, a radio advertising campaign to inform access to physicians, a radio campaign to encourage the take-up of dental provision, and translation of two letters at a total cost of £4,660. *Bradford Hospitals NHS Trust*: Very little outside translation. Therefore not costed. *Airedale NHS Trust*: Not identified. *Bradford Community NHS Trust*: Not separately identifiable. *Total identifiable costs*: £4,660.
Coventry	*Language Line*: Very limited service to GPs, breakdown of costs not available.	*Language Line*: Provide a very limited service to the Walsgrave Hospital Trust and Coventry and Warwickshire Hospital Trust + to GPs.	*Lamb St interpreting centre*: £47,180; 30 hours for co-ordinator (25% spent interpreting) + sessional interpretation (150–160 hrs per month average). Figure includes travel, office and communication costs.	N/A	*Lamb St interpreting centre*: £47,180. *Language Line*: £944.70. *Total identifiable acute costs*: £48,124.70.	*Total identifiable costs*: £2,342 at the Lamb St Centre.

Table 42: Continued.

Health authority	Interpreter/ advocacy costs in primary care	Interpreter/ advocacy costs in acute hospitals	Interpreter/advocacy costs in mental health and community	Other interpreter/ advocacy costs	Total interpreter/ advocacy costs to the acute sector (i.e. excluding primary care)	Translation and other media (costs)
Doncaster	No health authority backed provision. Cost of GP use of outside interpreters is not identifiable.	*Doncaster Health Care NHS Trust*: Interpreting costs cannot be identified. *Doncaster Royal Infirmary*: Hospital largely relies on voluntary provision from bilingual staff, so the costs in 1997/98 were said to be less than or equal to £200 for emergency use of outside interpreters.	No specialist service in mental health or community health.	Figures not broken down.	*Doncaster Health Care NHS Trust*: Interpreting costs cannot be identified. *Doncaster Royal Infirmary*: Identifiable costs less than or equal to £200. *Total identifiable acute costs*: £200.	*Doncaster Health Care NHS Trust*: Translating costs were £647. *Doncaster Royal Infirmary*: Translation costs cannot be identified. *Total identifiable costs*: £647.
Ealing, Hammersmith, and Hounslow	Beginning to sponsor interpreting at a primary care this year at a projected cost of £25,000 p.a. for Language Line and some face-to-face interpreting.	*West London Health Care Trust*: Some provided but costings not broken down by speciality. *Ealing Hospitals NHS Trust*: Some provided but costings not broken down by speciality. *Hammersmith Hospitals NHS Trust*: Projected full year costs of £52,720 (including £775 for Language Line). *West Middlesex University NHS Trust*: £5,500.	*West London health Care Trust*: Some provided but costings not broken down by speciality. *Hounslow and Spelthorne Community and Mental Health NHS Trust*: Total interpreting costs were £17,548 (including Language Line). *Riverside Mental Health NHS Trust*: £14,702.07. *Riverside Community Trust*: Costs in 1997/98 are £27,000–28,000.	Figures not broken down.	*West London Health Care Trust*: Total costs £21,058 (including Mental Health and Community provision). *Ealing Hospitals NHS Trust*: A Trust interpreter costs £14,000 whilst agency interpretation costs are £15,000 = £29,000. *Hammersmith Hospitals NHS Trust*: Projected full year costs of £52,720 (including £775 for Language Line). *West Middlesex Hospitals NHS Trust*: Costs are thought to be around £5,500.	

Table 42: Continued.

					Riverside Mental Health NHS Trust: Costs in 1997/98 are £14,702. *Hounslow and Spelthorne Community Mental Health*: £17,548. *Riverside Community Trust*: Costs in 1997/98 were around £27,000-28,000. *Total identifiable acute costs*: £167,528–168,528.	*West London Health Care Trust*: 27 translations carried out by freelance interpreters at £385. *Ealing Hospitals NHS Trust*: Not clear. *Hammersmith Hospitals NHS Trust*: Not clear. *Hounslow and Spelthorne Community and Mental Health NHS Trust*: c.£3,000 translation budget. *Riverside Mental Health NHS Trust*: Not clear. *Riverside Community NHS Trust*: Not clear. *Total identifiable costs*: £10,385–13,385.
East London and City	*East London and City Health Authority*: £22,680 for primary care Advocacy.	*East London and City Health Authority*: Figures not broken down.	*East London and City Health Authority*: Figures not broken down.	*East London and City Health Authority*: Complaints department: spent £135.50 on interpreting.	*East London and City Health Authority*: Overall spending for 1997/98 is £2,335,975 (including complaints). *Total identifiable acute costs*: £2,335,975.	*East London and City Health Authority*: £1,203 was spent on translation of a conciliation leaflet + £6,700 on other translations (via an agency) + £20,000 on the production of videos in community languages. *Total identifiable costs*: £27,903.
Kensington & Chelsea, and Westminster	c.£60,000.	c.£145,000.	c.£95,000.	Figures not broken down.	c.£240,000 for mainstream interpreting service + £68,000 for the interpreting dimension of health authority funded projects. Overall total is around £308,000. *Total identifiable acute costs*: £308,000.	Excluding print runs: £18,000–24,000. *Total identifiable costs*: £18,000–24,000.

Table 42: Continued.

Health authority	Interpreter/ advocacy costs in primary care	Interpreter/ advocacy costs in acute hospitals	Interpreter/advocacy costs in mental health and community	Other interpreter/ advocacy costs	Total interpreter/ advocacy costs to the acute sector (i.e. excluding primary care)	Translation and other media (costs)
Leicestershire	*Actual*: At present the budget is £5,000.	*Leicester General Hospital*: Costs cannot be identified. *Leicester Royal Infirmary*: £6,981. *Glenfield Hospital NHS Trust*: Currently use volunteers so costing is not available.	*Leicestershire Mental Health Service Trust*: £41,550 to cover two full-time staff and office costs. *Fosse Community Health Trust*: The total cost is £12,473.	Figures not broken down.	*Leicester General Hospital*: Costs not identifiable. *Leicester Royal Infirmary*: £6,981. *Glenfield Hospital NHS Trust*: No identifiable costs. *Leicester Mental Health*: £41,550. *Fosse Community Health Trust*: Spent £35,835 on interpreters. *Language Line*: Total health authority-wide spending of £1,914. *Total identifiable acute costs*: £86,280.	*Leicester General Hospital*: Costs not identifiable. *Leicester Royal Infirmary*: Costs not identifiable. *Glenfield Hospital NHS Trust*: Costs not identifiable. *Leicester Mental Health*: Costs not identifiable. *Fosse Community Health Trust*: £8,500. *Total identifiable costs*: £8,500.
Newcastle and North Tyneside	£19,400.	Figures not broken down.	Figures not broken down.	Figures not broken down.	*Total identifiable acute costs*: £40,600.	Reported translation costs at Newcastle Interpreting Service for Health and Social Services: £1,645 + translation cost of maternity information into Arabic, Bengali, Cantonese, Hindi, Punjabi, and Urdu was £391.50. *Total identifiable costs*: £2,037.

Table 42: Continued.

North West Anglia	Figures not broken down.	Figures not broken down.	Figures not broken down.	Figures not broken down.	*Peterborough District Hospital NHS Trust*: Costs of CINTRA interpretation are £10,980. *North West Anglia Health Care Trust*: Costs of CINTRA interpreting are £4,846. *Language Line*: Costs of telephone interpreting for the health authority are £4,681. *Total identifiable acute costs*: £20,507.	*Peterborough District Hospital NHS Trust*: Costs of CINTRA provided interpretation are £60. *North West Anglia Health Care Trust*: Costs of CINTRA provided translation £48. *Total identifiable costs*: £108.
Salford and Trafford	Figures not broken down.	Figures not broken down.	Figures not broken down.	Figures not broken down.	*Salford and Trafford Health Authority*: Report total district interpreting costs to be £31,500. *Total identifiable acute costs*: £31,500.	*Salford and Trafford Health Authority*: Report total district translating costs to be £10,500. *Total identifiable costs*: £10,500.
Sandwell	Figures not broken down.	Figures not broken down.	*Black Country Mental Health Trust*: Costs not identifiable, and much voluntary provision anyway.	Figures not broken down.	*Sandwell Health Care Trust*: £68,595. *Black Country Mental Health Trust*: Not identifiable. *Total identifiable acute costs*: £68,595.	*Health Authority Translation Unit*: Costs to Sandwell £10,090 *Total identifiable costs*: £10,090.

Table 42: Continued.

Health authority	Interpreter/ advocacy costs in primary care	Interpreter/ advocacy costs in acute hospitals	Interpreter/advocacy costs in mental health and community	Other interpreter/ advocacy costs	Total interpreter/ advocacy costs to the acute sector (i.e. excluding primary care)	Translation and other media (costs)
Warwickshire		*North Warwickshire NHS Trust*: Estimated costs of £7,000 during 1997/98 + Language Line at £1,836 for North Warwickshire and the former Rugby NHS Trust = £8,836 + £13,000 = £22,836. *Warwick Hospital*: Figures not broken down to this level. *George Elliot Hospital NHS Trust*: Figures not broken down to this level. *Language Line (not included in above figures)*: £1,838.	Figures in main totals.	*North Warwickshire NHS Trust*: A bilingual co-worker providing advocacy and interpreting provision works part-time at a cost of £8,000. A proportion of the Race Equality Officer's time is spent working as an advocate at a cost of £5,000 = £13,000.	*North Warwickshire NHS Trust*: £7,000 + £13,000 = £20,000. *Warwick Hospital NHS Trust*: £757 for provision from November 1997–Mar 1998. Therefore for whole year projection = £752 × 2 = £1,514. *South Warwickshire Combined Care*: £431. *George Eliot NHS Trust*: £6,300. *Language Line*: £1,836. *Total identifiable acute costs*: £31,081.	*North Warwickshire NHS Trust*: Spends an estimated £3,000 per annum on written translation. *Warwick Hospital NHS Trust*: Translation is not provided. *South Warwickshire Combined Care*: Not identifiable. *George Elliot NHS Trust*: Not identifiable. *Total identifiable costs*: £3,000.

Source: Clark *et al.* 1998[167]

- However, there are other areas of need where minority ethnic populations may have diminished health care costs, or where provision of services specific to these communities may be desirable or alternative to (but not necessarily more costly than) existing provision (for example, provision of vegetarian meals or employment of female health professionals).
- The process of drawing attention to minority ethnic needs may lead to service developments that are relevant and desirable to people from the majority population, for example provision of options for vegetarian meals or facility to consult a health professional of the same gender.

Haemoglobinopathies

Zeuner *et al.*[225] have estimated that total lifetime treatment costs over 60 years for patients with thalassaemia major and sickle cell anaemia are £490 000 and £173 000, respectively.

6 Effectiveness of services and interventions

Evidence on the effectiveness and cost-effectiveness of specific services and interventions tailored to BMEGs is limited. The reader is referred to other chapters for details of effectiveness and cost-effectiveness of specific services and interventions aimed at the whole population or specific ethnic minority groups. Indeed, the information base to support policies are only partially available as mortality statistics (*see* 'Mortality analyses'), hospital episode and general practitioner data – all problematic.[226] The haemoglobinopathies are mentioned in this section as the evidence base is growing. It is also important to note that as most studies have excluded individuals from the black and minority ethnic communities, there is a dearth of data on effectiveness and cost-effectiveness in these groups.[227,228]

Assessment of the quality of clinical care may become more readily available as:

- ethnic monitoring becomes more systematised in secondary care, and if it becomes statutory and more widely adopted in primary care
- clinical governance strategies are implemented and evaluated, including greater measurement of clinical outcomes.

Note that the level of evidence is based on criteria given in Appendix 4, where the emphasis is on study design only.

Quality of care

Primary care

- Level of evidence – III to II-3.

The national BMEG survey showed ethnic minority respondents, particularly Bangladeshis, were less likely than the general population to feel that time their GP spent with them was adequate.[86] The PSI survey[84] found that the preferences of some ethnic minority patients for doctors of similar ethnicity and gender to themselves were unlikely to be met. Patients' accounts of their unsatisfactory experiences of consultations consistently raise concerns about effective communication, use and availability of interpreters and other bilingual workers, and the communication skills and attitudes of health professionals.[150,161]

A dominant issue for all services, from patients' perspectives, is quality of effective communication (*see* below). There is limited evidence suggesting the quality of primary care of minority groups might be poorer than the majority population in terms of achieving effective communication.[86]

Secondary care

- Level of evidence – III to II-3.

Failure to communicate the availability of female GPs appears to act as a barrier to uptake of maternity and gynaecology services for some women.[229] Research concerning the quality of secondary services offered to minority ethnic groups is sparse, but suggests lower quality of care, in terms of inequalities of access and poorer treatment, compared to the majority population. For example, lower quality of obstetric[230] and diabetic care.[231]

Overall, levels of 'satisfaction' with some NHS services are not that dissimilar (though usually slightly less) than those of the majority population,[84,86,138] even when specific questions are asked about recently utilised services.[232,233] It has been suggested that the challenge of meeting the needs of minority ethnic groups – at least to their own 'satisfaction' – should not be regarded as insurmountable.[13]

Cardiovascular disease

- Level of evidence – I.

There is a dearth of literature comparing efficacy of interventions on CVD risk factors among minority ethnic communities. However, the risk factors are essentially the same but their distribution is different so that preventive strategies have to be tailored to account for this.

Pharmacological treatment of hypertension is effective[234] and in general black patients have lower levels of renin than whites, and are more salt-sensitive than whites.[235] Hence beta-blockers, ACE inhibitors and AII antagonists are less likely to be as effective as diuretics and calcium channel blockers among black patients.

Haemoglobinopathies

- Level of evidence – II-3 to I.

There are two main components of treatment of sickle cell disease – preventative and supportive. These patients are susceptible to infections (particularly pneumococcus, salmonella species, meningococcus and haemophilus). Preventative treatments include prophylactic penicillin from four months of age, which reduces pneumoccocal infections by 84%,[236] but there is debate on the appropriate age to stop; immunisation against pneumococcus and haemophilus; and education on avoiding precipitating conditions and support of parents.[237] Supportive therapies include treatment of acute crises with fluid therapy, pain relief, and blood transfusion. Hydroxurea is also effective in some patients in decreasing incidence of acute chest syndrome and the need for blood transfusion.[238] Bone marrow transplantation is also available for selected children.[239]

The clinical course of β-Thalassaemia is more predictable and morbidity and mortality reduced by regular blood transfusions[240] and subcutaneous desferrioxamine to reduce iron overload.[241] The latter itself leads to complications[242] and problems with compliance.[243] Oral iron chelators are available but have not been fully evaluated.[244] Bone marrow transplantation is curative and indicated in children who have not had any complications.[245]

Screening programmes including pre-natal diagnosis have resulted in a marked reduction in the birth rate of affected children in Greece, Cyprus, Italy and Sardinia[246] but no UK studies have been reported.

Effective communication

- Level of evidence – III to I.

There is an extensive literature demonstrating that good communication is important and valuable in terms of health care, clinical outcomes and efficiency.[247–9] However, there is a paucity of research concerning the effectiveness of strategies to improve communication with 'non-English speaking' and culturally diverse patients.

Language and cultural differences can create barriers, misunderstandings and misconceptions in health professional–patient relationships and therefore the outcomes of health contacts.[169,250] This may clearly compromise active participation in management plans, which can facilitate better outcomes.[251] Patients themselves repeatedly highlight ineffective communication as causes of unsatisfactory experiences of health services.[150,161] Three key factors are:

- **Generic issues in common with the majority population:** for example, the importance of being given time, taken seriously, listened to, being examined and given appropriate explanation are emphasised (*see* below).
- **Absence of, or limited shared language with professionals:** for example, the PSI survey[84] found opportunities to consult a bilingual primary care professional were often limited. Of those who had difficulty communicating with their GP, less than 10% had had access to a trained interpreter in consultations, and 75% used a friend or relative to translate for them. A third of respondents still felt their GP had not understood them. Similarly, only 30% of Pakistani and Bangladeshi respondents who had been admitted to hospital in the past year had received any form of trained bilingual assistance.
- Patients from minority ethnic communities may also experience **negative stereotyping or racist attitudes** from professionals or find them insensitive to cultural issues.[150,161,217,218] Communication difficulties may clearly serve to reinforce these pre-existing inequalities of experience.[252]

A review focusing upon communication issues specifically between people from minority ethnic communities and health professionals[253] identified examples of good practice that appeared to be related to effectiveness, but there is a lack of sound evaluation to date. Research concerning the effectiveness of translated written and audio-visual materials is also lacking.[253]

Evidence relating to use of interpreters remains limited but is beginning to accumulate.

A report of services across London suggested that medical consultations across languages without the use of a trained interpreter were three to four times longer in duration, and appeared to compromise effective diagnosis and management.[254] The use of full-time or experienced sessional interpreters who have undergone training appears to result in high quality of interpreting, diminishing problems associated with inadequate communication.[253] Moreover, such provision may improve the health and wellbeing of minority ethnic patients.[255]

There is no firm evidence available concerning the effectiveness of telephone interpreter services, though North American research suggests this can be very effective and popular.[256] While offering the advantage of ready and potentially 24-hour availability, adequacy of interpreting may be compromised by not being physically present to interpret non-verbal cues and signs. However, with further experience, this provision may prove more cost-effective in some contexts than face to face interpreting, for example for rare languages and out of hours provision.

There is limited published research about the effectiveness of bilingual linkworker or advocacy programmes.[257] Such work tends to be problematic to evaluate and difficult to generalise beyond specific schemes. This research base needs to be strengthened. However, the literature suggests linkworkers may make a valuable contribution in many services, such as new patient health checks in primary care, women's health and mental health.[258] Linkworkers have been employed to encourage uptake of breast and cervical screening,[181,259] but evidence for their effectiveness in health promotion is mixed.[260] They have been successfully trained in managing patients with diabetes and asthma, though resolution of medicolegal issues is needed before these clinical roles can develop.[261]

Some linkworker initiatives have helped challenge individual and institutional racism in the NHS.[262] There is some evidence suggesting bilingual advocates may affect the quality of service obtained by minority ethnic patients. Women from minority ethnic groups in East London who had contact with a bilingual advocate experienced significantly better obstetric outcomes in terms of length of antenatal stay, onset of spontaneous labour and normal vaginal delivery than women who had no such contact.[263] Although this research had limitations, these differences may have arisen from better quality of contact between health professionals and women supported by advocates.

Effectiveness of health promotion interventions

- Level of evidence – I.

A review by White *et al.*[264] has revealed a dearth of relevant research on nutritional interventions promoting healthy eating among BMEGs. Most interventions were based in the USA, thus limiting generalisability and interpretation from these studies.

Health education campaigns to reduce vitamin deficiency have had little success in changing dietary practice.[134] An alternative effective policy to recommending supplements to prevent vitamin D deficiency in South Asians is still awaited.

Only two randomised trials have evaluted interventions specifically targeted at the BMEGs, both aimed at increasing uptake of breast[259] and cervical[265] screening. The former showed no effect, possibly due to contamination and lack of statistical power, and the latter showed that visits and home visits were effective. Caution is needed in interpreting study by McAvoy,[265] as results may not be generalisable as the sample was drawn from a previous study on use of health services and there was over-representation of Muslims.

Training for service delivery in an ethnically diverse society

- Level of evidence – III.

The development of relevant training of health professionals to respond appropriately to the needs of diverse groups is slowly beginning to gain momentum.[212] However, sound evaluation of its effectiveness is not yet available and is unlikely to accrue until such training itself is perceived as necessary.[212] For interpreters to be used well and cost-effectively, staff training in how to identify language needs and work with the interpreter is necessary.[266,267]

7 Models of care and recommendations

Introduction

This section suggests a *generic* framework comprising key recommendations and desirable components for services. These are based upon available experience of good practice and limited extant research. The information provided should usually be regarded as *starting points* for inclusion in local Health Improvement Programmes and service development. Other chapters in this series offer specific recommendations in relation to specific disease areas, and relevant models are also provided elsewhere,[12] though selected issues for certain conditions are briefly highlighted here.

Services for black and ethnic minority groups should be part of 'mainstream' health care provision and all policies should include needs of this group.[227] This ensures that race and equality issues are integrated into corporate and departmental policy development, day-to-day management processes and evaluation mechanisms so that all personnel are competent not just a few specialists.

As the majority of the BMEGs reside in deprived urban areas, the effects of wider social circumstances[268] have to be considered and strategies developed which also tackle these.[269]

Framework for care

Current policy contexts of clinical governance and PCO-led locality-oriented service development[270] may offer particular opportunities to enhance care for minority ethnic communities in the UK.[139] The following key elements for a service framework are recommended across primary, community and secondary health services (**Box 4**). They might appropriately form part of clinical governance strategies developed by PCGs and Trusts, and area Health Improvement Plans, to reflect local health needs. Note that following the Macpherson report[216] all public services, including the NHS, now have to comply with the amended Race Relations Act (2000). This legislation should be considered in all policies for health care. Further, the principles of equity of health care, stated as ensuring equal access and use of available health care for equal need, with equal equality for all need to be incorporated.[156,271]

Box 4: Framework for developing services

1 Facilitating access to appropriate services

- Promoting access
- Providing appropriate bilingual services for effective communication
- Education and training for health professionals and other staff:
  - to enable effective working with bilingual services
  - for cultural awareness and competence (including gender preferences)
  - for sensitivity to attitudes: stereotyping, prejudice, racism
- Appropriate and acceptable service provision
- Ethnic workforce issues
- Community engagement and participation

2 Systematising structures and processes for capture and use of appropriate data

- Ethnic monitoring and audit of quality of care

Delivering suggested framework

Practical examples of good practice where elements of this framework have been addressed or developed in the NHS are available[272] (Appendices 5–8). These should be drawn upon in considering local development and implementation. Robust evaluation of effectiveness is limited at present. However, this evidence base should develop with further experience and greater commitment to appropriate data collection and use, including ethnic monitoring.

Firm performance management at central, regional and local levels of the NHS, including the delivery of clinical governance, will be crucial to the successful further development and delivery of effective and appropriate services (and their evaluation) suggested here. This implies political commitment.

In developing Health Improvement Plans and service specifications and monitoring provision, it is important that specific responsibility for minority ethnic communities is held by a designated team that includes a manager, or managers, with sufficient power and status to execute tasks effectively.

Facilitating access to appropriate services

Promoting access: reviewing barriers

Similar principles apply to all services. Primary care teams, community services and Trusts can make themselves more accessible to people from minority ethnic communities by **reviewing barriers to access**, including:

(a) **Patient information on available services:** Are leaflets, audio-visual displays/resources and surgery/clinic/hospital signs readily available, accurate and appropriate to local communities in relevant languages?

(b) **Physical accessibility and appointment systems:** Is there appropriate flexibility of provision in terms of the need for longer appointments where interpreting is required, timing of surgeries and clinics? Are facilities secure and well lit? For example, in the recent PSI survey 58% of people from minority ethnic groups avoid going out at night and 35% visit shops at certain times only because of concerns about racial harassment.[49]

(c) **Empowering reception staff:** Receptionists and other administrative or clerical staff often provide the first important point of contact with, and can play an important role in facilitating access to, services. Are they enabled through service organisation and training (*see* below) to, for example:
- facilitate telephone access for appointments
- promote access to relevant information about services
- liaise with bilingual services as appropriate
- be sensitive to possible gender preferences for health professional
- appropriately seek and record ethnic monitoring data?

(d) **Primary care:** Given consistently high levels of minority ethnic registration and use of primary care and General Practitioner services in comparison with other health services, the GP and primary care colleagues are a particularly crucial point of contact and access with health services than is already the case for the majority population.

(e) **Providing appropriate bilingual services for effective communication:** The vital importance of negotiating language and other barriers by providing interpreting, linkworker and advocacy services to work with health services has been highlighted. The need for more comprehensive, appropriate and flexible provision of these services is crucial. In many areas such services are underdeveloped and availability poor.[167,253]

Key issues for successful development and implementation are:

- **Explicitly budgeting for, and mainstreaming, provision as integral to health services:** This implies unequivocal and effective performance management at all levels (*see* above). This should be aligned to continuing and appropriate resource allocation. It is recommended that a statutory responsibility should be assigned (for example to HAs) to provide adequate services for its local population.

  A cost formula has recently been suggested by a team at the University of Warwick as offering, albeit with limitations, an estimate of funding required to provide 'adequate' interpreting and advocacy provision per person with language needs.[167]
- **Management:** Dedicated management of services, including senior managerial commitment and usually a designated service manager, is suggested for needs assessment, effective planning, co-ordination, quality assurance and end delivery. Clear objectives should be derived and related to service level agreements with appropriate community involvement.
- **Predicting need:** Few schemes are based upon formally assessed needs, preventing establishment of clear objectives for service delivery. Effective needs assessment should be developed in tandem with development of better ethnic monitoring data (for example, establishing linguistic needs, literacy, and the number of health contacts in which an interpreter would have been indicated in those services used by non-English speaking patients).

  A range of estimates of functional literacy in five minority linguistic groups (Bengali, Chinese, Gujarati, Punjabi, Urdu) and some refugee groups (Bosnian, Kurdish, Tamil and Somali) has been derived.[162] The same report also provides a mechanism for predicting need for interpreter provision against local census data. This should be complemented by local community consultation in configuring services (*see* below).
- **Health professional and other staff training:** This should be regarded as a priority for both pre-and post-registration training.

  Health professionals need to learn skills to identify interpreting needs and to be able to work effectively with interpreters and linkworkers/advocates if these services are to be used well and cost-effectively in health services. This includes recognising that allowing friends or family to interpret for patients is usually unsatisfactory. Consideration of these training issues and suggestions and resources for practical training are becoming available.[212]
- **Effectively publicising availability of services among communities and how to access them.**
- **Mechanisms for quality assurance and evaluation:** This should include monitoring and categorisation of service uptake, and the setting of minimum standards for recruitment, training and supervision of staff. The use of trained bilingual workers (including language lines) whenever possible is advocated, with the use of volunteers acceptable only in emergencies.
- **Mechanisms for patient feedback and complaints.**
- **Tensions that need to be anticipated in developing services include:**
  - bilingual workers such as linkworkers and advocates being employed on low A&C grades, which lowers their perceived status by other professionals
  - developing ways of integrating linkworkers into established primary care and other health teams to improve effectiveness and mutual support, and avoid suspicion from health care professionals
  - quality assurance and co-ordination of recognised and accredited training for bilingual workers, in particular to facilitate access into traditional health care professions where minority ethnic communities are under-represented.

Examples of linkworker and advocacy service models in primary care are discussed in a recent review.[258] This also offers a checklist for HAs and PCOs seeking to establish or develop local services (Appendix 6) that considers strategic frameworks, assessing needs, defining roles, management and supervision, monitoring and evaluation, recruitment and training, administration.

The role of effective communication in relation to addressing the mental health needs of people from minority ethnic communities warrants special note. Detection, assessment and management of mental ill health are peculiarly and critically dependent upon effective communication (both linguistically and in terms of cultural sensitivity to conceptual models). Hence appropriate training for professionals to work with bilingual services here are crucial, including recognition of the limitations and challenges involved within the context of mental health.

Training for health professionals and other staff

The importance of addressing the training of health professionals to work effectively with bilingual services is highlighted earlier. But achieving effective communication means more than negotiating language barriers. Health professionals' attitudes and their awareness of them are equally important. Although further experience in health professional education is needed, **learning to value ethnic diversity** as an integral part of consultation skills has recently been advocated.[139,212] The importance of instigating this has been highlighted by the Macpherson Report (1999),[216] which defined institutional racism as:

> *The collective failure of an organisation to provide an appropriate and professional service to people because of their colour, culture or ethnic origin. It can be seen or detected in processes, attitudes and behaviour which amount to discrimination through unwitting prejudice, ignorance, thoughtlessness and racist stereotyping which disadvantages ethnic minority people. . .*
>
> *[Racism] persists because of the failure of the organisation openly and adequately to recognise and address its existence and causes by policy, example and leadership. Without recognition and action to eliminate such racism it can prevail as part of the ethos or culture of the organisation. It is a corrosive disease.*

While a general recognition of the differing needs of ethnic groups is important, this means learning generic skills to respond flexibly to encounters where diversity has an impact, and in particular to assess and respond to each patient as an *individual*, and to variations in patients' culture in its broadest sense.[212] As with the majority population, professionals must acknowledge the cultural context in which health and illness is expressed. Any patient, black or white, will have a particular ethnicity, education, socio-economic background, set of health beliefs and experiences, for example. In particular, there is a need for professionals to recognise and be sensitive to the socio-economic disadvantage and inequalities of opportunity that many from minority ethnic communities experience. Responding to this diversity demands development of a heightened awareness of, and sensitivity to, stereotyping, prejudice and racism – and how this can be challenged.[139,212]

Given that no training can prepare professionals for all issues, training should primarily adopt these generic principles.[212] However, more specific training should, where feasible and appropriate, enable professionals to work competently with local communities. This should include acquiring relevant cultural knowledge, for example, about patterns of disease and presentation, beliefs, diet, religion and caring for dying patients of different faiths. Health staff should be able to show cultural sensitivity but must avoid relying upon stereotyped notions of culture or language ability in communicating with and caring for clients.

Training in valuing diversity requires care. It may challenge attitudes and suggest fundamental change within professionals themselves. It is important not to underestimate the strong discomfort that may be generated. This field is relatively new to health professional education in the UK and further experience is required.[86,168] One resource offers practical suggestions and guidance for promoting small group interactive learning about culture, communication, racism, working with interpreters, and placing the

needs of ethnic minorities in context. Although intended primarily for those training undergraduate medical students and GP registrars, it should be useful for other health professionals in pre- and post-registration training.[168]

For success, such training must start to become embedded in the education and accreditation of all health professionals: from pre-registration to post-registration, including induction courses at the commencement of posts.[212,273] These are crucial first steps. Overlooking them, and thus failing to address professionals' awareness and attitudes, may explain why important initiatives such as ethnic monitoring have faltered.

Training professionals: mental health of minority ethnic communities

This is a fundamental requirement for appropriate mental health service provision. There may be considerable unmet need for psychological support among minority ethnic groups in primary care[274] who are much less likely to be referred for psychological therapies. There is a strong case for appropriate training of primary care professionals in awareness and detection of psychological problems in minority ethnic groups, particularly where assessments are likely to be compromised by language difficulties.[121,275]

Need for mental health services (based upon observed diagnosis) among South Asian populations is probably underestimated.[276] Major concerns with psychiatric practices in relation to minority ethnic groups[46,277] and their theoretical and ideological basis[138,278] have been recognised for some time, particularly in relation to African and Caribbean communities. The experience of psychiatric services is different and often less satisfactory for many people from ethnic minorities compared to the white majority.[279]

Training should include:

- the central importance of effective communication between patient and professional, including working with bilingual services
- ethnic variations in mental ill-health
- the importance of social inequalities and racism in contributing to experience of mental ill-health
- cultural influences and variation in the expression and communication of distress
- issues of detection and management
- awareness of racism and stereotyping in terms of impact upon patients and professionals' attitudes and behaviour
- recognition that psychiatric diagnoses and categories developed in Western cultures may not be applicable to others and may contribute to racism and ethnocentrism.[46]

Appropriate and acceptable service provision

While services should be acceptable to all patients, they should be sensitive to the cultural values and beliefs of people from minority ethnic communities. As indicated earlier, staff training is vital, in addition to the provision of the following.

Appropriate and acceptable choices across services

Do meals meet religious and dietary requirements? This would imply, for example:

- local policy detailing responsibilities for meeting dietary needs
- awareness and information about these requirements for catering managers, suppliers and health staff

- recording these requirements on patient and nursing records
- training programmes for dieticians, health visitors and catering staff
- menus available in relevant languages, including information for patients indicating food content and preparation
- food choices in canteens, etc.
- monitoring of the quality and appropriateness of food choices.

Is there appropriate religious support? For example:

- is there a place of worship for those admitted to hospital?
- are there quiet rooms, mortuary or prayer space not dominated by symbols of the majority religion and suited to religious observance and preparation of the dead by other faiths?

Are female doctors and other female health professionals available in relevant contexts such as obstetrics and gynaecology?

Are health promotion and education information and programmes adapted to cultural and religious backgrounds and provided in appropriate media and languages?

Separate or mainstream provision

Debate about the advantages and disadvantages of providing 'dedicated' ethnically separate services for different clinical areas or enhancing existing provision integral to mainstream services arise frequently, in particular in relation to mental health care.

Elements of some services may be appropriately specific to certain groups, for example linkworkers focusing upon improving care of heart disease and diabetes within some services.

In mental health, a register of psychiatrists with particular interest or expertise in transcultural psychiatry has been developed that indicates ethnicity, languages spoken, special experience and readiness to be contacted (Royal College of Psychiatrists, 17 Belgrave Square, London SW1X 8PG; Tel: 020 7235 2351).

However, the large number of differing ethnic groups usually precludes development of several separate comprehensive services. Moreover, doing so may lead to undesirable marginalisation of minority ethnic needs and short-term interventions at the expense of improving more appropriate mainstream service delivery. Requirements particular to different localities should be based upon needs assessment including local community consultation and service user involvement.

Ethnic workforce

The NHS is the largest employer in England, with over 7% of staff non-medical staff from the BMEGs. (http://www.doh.gov.uk/public/stats1.htm) It should recruit and develop workers reflecting the local community and provide equality of opportunities and outcome. It should have policies to tackle and monitor racial harassment within its workforce (see http://www.doh.gov.uk/race_equality/index.htm and www.cre.gov.uk/publs/dl_phccp.html for further information).

Health authorities, Primary Care Organisations (PCOs) and Trusts should implement equal opportunities and proactive recruitment policies that as far as possible enable their workforces to reflect the ethnic diversity of local communities. The employment of bilingual health workers/professionals is clearly desirable but there is a relative lack of people from minorities entering health professions, in particular in nursing.[267] It should be noted that the Race Relations Act (1976) specifically allows employers to appoint using ethnic or linguistic criteria on the basis of, for example, a genuine occupational qualification such as appropriate linguistic skills.

In supporting its workforce, organisational culture and recruitment, services must have clearly defined procedures in place for dealing with racism and racial harassment towards or from staff and patients. These policies need to be publicised to both staff and patients.

In general practice, a particular issue for services is the imminent retirement of a cohort of doctors from minority ethnic backgrounds who have sustained general practice in many inner city and other largely disadvantaged areas.[280] Some patients have countered their linguistic disadvantage by consulting such doctors who are fluent in their own language.[151] This gap in service experience and provision needs to be anticipated and opportunities from new flexibilities and developments in primary care might be used, for example salaried general practitioner schemes and nurse practitioner-led services.

Recruitment, in particular to nursing and professions allied to medicine, presents challenges. Cultural or material constraints, lack of educational opportunities, and discrimination must be explored and addressed appropriately. Proactive and creative outreach approaches may help, for example by awareness raising and discussion in schools and colleges to encourage young people to apply for and enter health-related and health professional courses at local institutions.

Approaches need to be allied to engaging local communities in partnerships. Strategies that empower and develop community members through training and accredited qualifications may facilitate routes to health-related higher education and health professions. Examples of such practice are emerging. They include community parents as 'paraprofessionals' in health and social care roles,[281] and health researcher and health development worker projects.[164,282]

Community engagement and participation

Local communities – organisations, voluntary groups, individuals – should be engaged and their participation secured, wherever possible, in the framework for services suggested in this section. Many issues for appropriate service provision (for example, health education and promotion or effective access to services) – and therefore approaches to community participation – are likely to be shared with other communities of interest, in particular those from disadvantaged white populations.

A range of approaches can be used,[283,284] including community development and participatory research strategies.[164,285] These approaches need to evolve within new health service contexts, in particular of Primary Care Organisations (PCO). PCO-led decision-making now offers important opportunities to advance service development that is responsive to local communities' needs. Local communities should be enabled to have active roles in shaping and supporting all aspects of services outlined. These include roles in:

- community consultation and research about needs, appropriateness and quality of service
- service design, acceptability and delivery
- health professional training
- health promotion interventions
- minority ethnic recruitment to the NHS workforce
- approaches to ethnic monitoring and audit of quality of care.

Systematising the capture and use of appropriate data: ethnic monitoring

HAs, PCOS and Trusts need to know the size, geographical distribution and socio-economic characteristics of their local ethnic minority populations. This information should include languages spoken,

religions and lifestyles. Such information needs to be collected consistently and appropriately. These requirements appear axiomatic but the continuing failure of the NHS to realise and monitor them systematically must be addressed. They are crucial to the effective development and evaluation of services for minority ethnic populations.

Ethnic monitoring data is clearly a pre-requisite for defining populations, successful needs assessment, planning and audit of services. The statutory requirement to compile basic ethnic monitoring data within the acute hospital sector needs to be further developed. It must be extended elsewhere in the NHS to the community care sector and, crucially, to the primary care sector. Again, for success, performance management is a critical starting point. In tandem, the introduction of such initiatives need to be carefully researched and evaluated.

Issues of variation in quality, and good practice for local ethnic monitoring are outlined in section 3. Particular concerns are ensuring data goes beyond ethnic origin (usually by census group) to relate to language and other needs. Functional literacy is related to non-UK birth, underlining the importance of recording birthplace. Staff need to be aware of the purpose of data collection and supported by training to seek information sensitively and accurately.

Effective models that can help primary care teams collect essential data about patients' ethnicity, language and culture are now available.[74,286] This information must then be used to plan and improve quality of care through audit and evaluation.

Integration with wider policy initiatives

In reviewing, developing or providing services for minority ethnic communities, opportunities should be sought that may be, or are being, presented by local initiatives seeking to address the exclusion and inequalities experienced by marginalised and disadvantaged communities.

These may provide momentum for service innovations, or the development of existing services and their evaluation. They may entail creative and holistic approaches that move beyond traditional models of health service provision and integration with more socially oriented approaches to health improvement. These include urban regeneration programmes (Single Regeneration Budget), Health Action Zones, New Deal for Communities, SureStart and new flexibilities likely to arise from modernising and integrating health and social services.[270]

Specific services

The following are examples of services which highlight pertinent issues relating to BMEGs and can be adapted to other conditions.

Mental health

A comprehensive review of the psychiatric care received by people with severe mental illness from different ethnic groups in Birmingham, made recommendations for service development provided in Appendix 5.[279] This identifies the need for consultation with local ethnic minority communities, staff training, greater accessibility of social and psychological therapies, models of community-based care and home treatment alternatives to hospital admission.

The new National Service Framework for Mental Health (http://www.dh.gov.uk/assetRoot/04/07/72/09/04077209.pdf) rehearses similar recommendations in relation to minority ethnic communities, in particular highlighting training for health professionals.

Cervical screening

Recommendations for equitable and quality cervical screening services in primary care have been developed and are summarised in Appendix 7.[182]

Health education and promotion

Overall, black people may not be aware, or made aware, of the range of services available. When they are made aware, many express a wish to use them but may be inhibited in using them – or find that these services do not cater for their needs. Such provision often ignores the needs of people from ethnic minorities or marginalises them by focusing upon the difference in their cultural practices from the white 'norm'.[287]

It is clear that health promotion activities for minority ethnic communities can be improved. For example, the smaller proportion of people from ethnic minorities who have given up smoking (e.g. Bangladeshi men) compared to the white majority[84] would suggest health promotion messages have been less successful or strategies have not led to motivation to behaviour change.

In forming strategies, HAs, PCOs and Trusts should note that the health education needs of minority ethnic groups may be very similar to the majority population, but that appropriate methods for targeting and delivery may require a different, flexible approach.[288] Examples include:

- improving uptake of preventive services/screening – for example by proactive household by household invitation to Bangladeshi families[289]
- cervical screening uptake – targeted home visiting and information video can be superior to translated written material[265]
- information about primary care services and preventive advice – using videos and interactive computer and video packages.[149]

In order to determine appropriate health promotion interventions, health professionals need to establish the community's views and aspirations; their reactions to proposed methods and settings; and the effects of interventions upon not only target behaviour/knowledge/ill-health but also the wider social and cultural aspects of the community's life.[288,290]

Interventions need to be sensitive to both similarities and differences in health beliefs and illness.[291] Moreover, they must go beyond understanding cultural issues and recognise the material constraints faced by many people from minority ethnic communities. The relatively disadvantaged socio-economic status of many ethnic minority populations and its impact upon their health cannot be ignored.[84]

Haemoglobinopathies

Haemoglobinopathy counselling centres are sited mostly in areas of high prevalence, but services are not yet comprehensive.[106] Awareness of these disorders amongst health professionals has been suggested for low uptake of screening services.

For both thalassaemia and sickle cell anaemia, survival is expected to rise.[225] Provision for health information, screening, pre-natal and antenatal counselling services and professional development is patchy and poorly co-ordinated.[106] Utilisation of prenatal diagnosis for haemoglobin disorders is low and

varies by region.[109] Initial provision was provided by enthusiastic individuals and voluntary groups in areas of high prevalence.[292]

There is also a need for appropriate interpreting services, as only 4 out of 34 haemoglobinopathy counsellors in England spoke one or more Asian languages.[293]

A model service specification for these disorders is given in Appendix 8.

8 Outcome measures

As there is still a need for further work on delivering services to BMEGs, there are a number of principles[3,294] to guide further action on priorities based on equity:

- national standards of quality of health care to be applied to BMEGs
- emphasis on basic needs, irrespective of similarities or differences between ethnic minority and majority populations
- emphasis on quality of service rather than specific conditions
- focus on a number of priorities rather than a large number
- be guided by priorities identified by, and for, the general population, e.g. *Saving lives: Our Healthier Nation Strategy for England*, as the similarities in the life problems and health patterns of minority ethnic groups exceed the dissimilarities
- consider impact of policies and strategies in reducing health inequalities amongst BMEGs.

Outcome measures

As the development of outcome measures for each disease/condition and ethnic group is in its infancy, general (i.e. SF-36) and disease specific (i.e. Rose Angina questionnaire) measures can be used as in the majority ethnic group. But there are a number of problems to overcome before translation and use of these measures in routine clinical practice.[295] It is vital to get as accurate a restatement of meaning as possible rather than linguistic precision[296] before validated instruments can be applied to specific minority ethnic populations.

To maximise the quality of care for the BMEGs, the following dimensions are still applicable for the development and monitoring of care provided by the health service: access, relevance, acceptability, effectiveness, efficiency and equity.[297]

Targets

Using national guidance, targets have or need to be set in the following areas:

Developing a diverse workforce

Each health authority is to implement *The Vital Connection: An equalities framework for the NHS strategy* (http://www.dh.gov.uk/assetRoot/04/07/72/09/04077209.pdf). This document provides a framework for action and targets in implementing this framework. The key elements are an equality statement and agreed

national equality standards and indicators (details will be available from the above website in due course). The framework is underpinned by three strategic aims.

- To recruit, develop and retain a workforce that is able to deliver high quality services that are accessible, responsive and appropriate to meet the needs of different groups and individuals.
- To ensure that the NHS is a fair employer, achieving equality of opportunity and outcomes in the workplace.
- To ensure that the NHS uses its influence and resources as an employer to make a difference to the life opportunities and the health of its local community, especially those shut out or disadvantaged.

Building on the *Working Together*[298] document, which set targets for achieving a representative workforce and tackling racial harassment, specific targets from April 2000 for NHS organisations have been set.

- Each local employer should be able to demonstrate a year on year increase in the level of confidence that staff have in their ability to tackle racial harassment at work, as measured through the annual survey.
- Each local employer should agree a target percentage reduction in the level of harassment at work and have arrangements in place to be able to demonstrate this progress year on year.
- Each local employer should meet the criteria to use the Employment Service disability symbol ('Two Ticks') by April 2001.
- All NHS boards should undertake training on managing equality and diversity by April 2001.
- A national target should be in place to increase ethnic minority representation in executive posts at board level to 7% by end of March 2004 across all sectors of the NHS.
- A national target to increase women's representation in executive posts at board to 40% by end of March 2004 across all sectors of the NHS.

Specific diseases

As outlined in *Saving lives: Our Healthier Nation Strategy for England* (http://www.webarchive.org.uk/pan/11052/20050218), targets to achieve by the year 2010 have been set for specific priority areas. These are not provided for specific minority ethnic groups and we advocate the following:

- **cancer:** to reduce the death rate in people under 75 by at least a fifth
- **coronary heart disease** and **stroke:** to reduce the death rate in people under 75 by at least two fifths
- **accidents:** to reduce the death rate by at least a fifth and serious injury by at least a tenth
- **mental illness:** to reduce the death rate from suicide and undetermined injury by at least a fifth.

The National Service Frameworks detail implementation plans to achieve the above targets and the following four are due to be published by spring of 2001: coronary heart disease, mental health, older people and diabetes (http://www.webarchive.org.uk/pan/11052/20050218).

Service delivery

(a) Provide an explicit statement by commissioning groups on embedding equality and diversity within Health Improvement Programmes. This includes racial prejudice and harassment.
(b) Develop a strategy to address 'culturally competent' services that emphasises not only clinically effective services but also the linguistic, cultural and religious preferences of individuals receiving the care. Ensure that these are reflected in their local Health Improvement Plans.
(c) Develop a local policy on screening/counselling for haemoglobinopathies (*see* Appendix 8).
(d) Set local target to ensure quality data on ethnic group status within secondary care.

9 Information and research requirements

Information needs

(a) Ethnic monitoring in primary care should be mandatory as in secondary care. Indeed, this should be extended to community and cancer screening services as well. The quality and completeness of this data needs to be improved to utilise routine datasets currently available.
(b) There is a need to include ethnic group data on birth/death certificates.

Further research

Research on BMEGs to date has concentrated on a number of minority groups, and the research that has been funded has been on short-term project funding so that full evaluation by rigorous methodologies has tended to be neglected. Further, most studies have neglected to recruit individuals from minority ethnic communities so that generalisability is limited. Research involving minority groups is also relevant to the needs of the majority 'white' population. This includes increased awareness of diversity within the population and its implications for practice; improved access to specific communities; and appreciation of the holistic approach to managing conditions within the health service. This chapter has highlighted many gaps in knowledge, and the following are the main priorities for further research amongst the BMEGs.

- There is a need for incidence data on the major conditions affecting mortality and morbidity.
- The evidence base by ethnic group on health status, access to services, health outcomes and cost-effectiveness of interventions is poor and needs to be addressed by all national commissioning bodies.
- Further evaluation is needed of different models of providing bilingual services, such as physically present interpreters and advocates compared to telephone and telemedicine interpreting.
- Assessment the effect of racism on health and health care is needed.

Conclusions

Needs assessment for black and minority groups is a complex task and the evidence base to guide decision-making is growing. Nevertheless, commissioners should assess the size of their local population; begin to address priorities for their population within their Health Improvement Plans; develop services to meet these; and monitor outcomes of care. This depends on having an effective, systematic ethnic monitoring within their provider services. We have highlighted issues and the dearth of data and hope that the ideas and frameworks will help. Some further resources are listed in Appendix 9.

Note that since completion of this chapter, an initial update on two surveys has been undertaken as shown in Appendix 10.

Appendix 1: Adjustment factors for estimated undercoverage by age, sex and ethnic group in the 1991 census, Great Britain

Age	Ethnic group										
	Total	White	Black-Caribbean	Black-African	Black-Other	Indian	Pakistani	Bangla-deshi	Chinese	Other groups	
										Asian	Other
Persons, all ages	1.02	1.02	1.03	1.05	1.04	1.03	1.03	1.03	1.03	1.03	1.03
0–4	1.03	1.03	1.04	1.04	1.04	10.3	10.3	10.4	1.03	1.04	1.04
5–9	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
10–14	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
15–19	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
20–24	1.06	1.06	1.09	1.09	1.08	1.07	1.08	1.09	1.09	1.08	1.08
25–29	1.07	1.07	1.10	1.11	1.09	1.08	1.09	1.10	1.09	1.08	1.09
30–34	1.03	1.03	1.04	1.05	1.04	1.04	1.04	1.05	1.04	1.04	1.04
35–39	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
40–44	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
45–79	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80–84	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
85+	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Males, all ages	1.03	1.03	1.05	1.07	1.06	1.04	1.04	1.04	1.05	1.05	1.05
0–4	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
5–9	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
10–14	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
15–19	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
20–24	1.10	1.10	1.14	1.15	1.14	1.12	1.14	1.14	1.14	1.13	1.13
25–29	1.10	1.10	1.16	1.17	1.15	1.13	1.15	1.16	1.14	1.14	1.14
30–34	1.05	1.05	1.07	1.08	1.07	1.06	1.07	1.08	1.06	1.06	1.07
35–39	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
40–44	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
45–79	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80–84	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
85+	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Females, all ages	1.01	1.01	1.02	1.02	1.03.	1.02	1.02	1.02	1.02	1.02	1.02
0–4	1.03	1.03	1.03	1.04	1.03	1.03	1.03	1.03	1.03	1.03	1.03
5–9	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
10–14	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
15–19	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01	1.01	1.01
20–24	1.03	1.03	1.04	1.04	1.04	1.03	1.04	1.04	1.04	1.04	1.04
25–29	1.03	1.03	1.05	1.05	1.05	1.04	1.05	1.05	1.04	1.04	1.04
30–34	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
35–39	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40–44	1.01	1.01	1.01	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01
45–79	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80–84	1.02	1.02	1.03	1.03	1.02	1.03	1.03	1.03	1.02	1.03	1.03
85+	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.05	1.06	1.06

Note: Derived entirely from factors by age, sex, and area of residence.
Source: OPCS/GRO(S) 1993, p.7[66]

Appendix 2: Full ethnic group classification

Code*	Category
0	White
1	Black-Caribbean
2	Black-African
3	Indian
4	Pakistani
5	Bangladeshi
6	Chinese
	Black-Other: non-mixed origin
7	British
8	Caribbean Island, West Indies or Guyana
9	North African, Arab or Iranian
10	Other African countries
11	East African, Asian or Indo-Caribbean
12	Indian subcontinent
13	Other Asian
14	Other answers
	Black-Other: mixed origin
15	Black/White
16	Asian/White
17	Other mixed
	Other ethnic group: non-mixed origin
18	British – ethnic minority indicated
19	British – no ethnic minority indicated
20	Caribbean Island, West Indies or Guyana
21	North African, Arab or Iranian
22	Other African countries
23	East African, Asian or Indo-Caribbean
24	Indian subcontinent
25	Other Asian
26	Irish
27	Greek (including Greek Cypriot)
28	Turkish (including Turkish Cypriot)
29	Other European
30	Other answers
	Other ethnic group: mixed origin
31	Black/White
32	Asian/White
33	Mixed White
34	Other mixed

* Codes 0 to 6 are the pre-coded boxes in the question (*see* **Box 1**).

Appendix 3: Population sizes according to 1991 census by sex and age group for selected countries of birth

Males **Age-group** **Country of birth**	**0–19**	**20–44**	**45–64**	**65–74**	**75+**	**Total**
East Africa	9,410	81,545	18,700	1,527	368	111,550
West/South Africa	8,256	33,679	9,593	992	265	52,785
Caribbean	3,161	32,844	53,755	11,487	2,406	103,653
Bangladesh	20,132	19,588	14,208	1,146	201	55,275
India	8,177	86,544	74,803	17,498	7,364	194,386
Pakistan	19,291	61,386	29,624	4,396	1,109	115,806
Hong Kong/China	6,622	26,698	9,529	1,996	789	45,634
Females **Age-group (years)** **Country of birth**	**0–19**	**20–44**	**45–64**	**65–74**	**75+**	**Total**
East Africa	9,346	76,236	16,920	1,571	477	104,550
West/South Africa	8,618	37,740	7,878	577	321	55,134
Caribbean	3,360	46,797	53,590	8,728	2,945	115,420
Bangladesh	17,356	23,424	7,557	408	188	48,933
India	7,786	99,331	68,823	18,658	11,032	205,630
Pakistan	16,301	65,777	22,742	2,761	1,309	108,890
Hong Kong/China	6,116	27,337	8,060	2,327	1,503	45,343

Appendix 4: Quality of Evidence

I: Evidence obtained from at least one properly designed randomised controlled trial.
II-1: Evidence obtained from well-designed controlled trials without randomisation.
II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one centre or research group.
II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.
III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.
IV: Evidence inadequate and conflicting.

Appendix 5: Findings and recommendations for mental service development[279]

Recommendations

Service development

All patients admitted to an in-patient facility should be give oral and written information about the reason for their admission, details of the staff who are to care for them, including their availability, and, where appropriate, their status under the Mental Health Act. The latter should include the type of section under which the patient is detained, the maximum length of detention and the right of appeal. A dated copy of this written information should be lodged in the patient's file. Medical Records staff should verify that this has been done.

The ethnic dimension in the Health of the Nation targets must be emphasised and, in particular, there should be an explicit acknowledgement that the social outcome for black people with mental health problems need to be improved. This should form part of contract negotiations between health purchasers and provider Trusts.

In areas with substantial minority ethnic groups, service providers should set up a regular process of consultation with service users from black and Asian backgrounds and also, local black communities. We recommend setting up an ethnic minority consultation forum to include representatives of local black communities, black service users, service providers, general practitioners, health purchasers and black voluntary groups.

There should be a system of monitoring the use of the Mental Health Act according to ethnicity. Regular data on this should be available and standards should be set up in each provider Trust with the aim of achieving uniform detention rates for all ethnic groups. Service purchasers should insist on targets that can be set on admission rates and detention rates for each provider unit with the aim of equalising the service usage of people from different minority ethnic groups.

There is an urgent need to review the availability, accessibility and appropriateness of social and psychological therapies for black and Asian patients. Referral rates and acceptance rates within such services must be monitored according to ethnicity.

Trusts providing psychiatric care in inner city areas in particular should be encouraged to develop alternative informal services for black service users with the emphasis on social care and culturally based interventions. Such services should form part of a network of social care available locally, including supporting housing schemes, cultural therapy centres and other informal systems of non-medical care. These alternative services should be evaluated and monitored on a regular basis. There is an urgent need to develop alternatives to hospital admission. Given the intrinsic problems associated with in-patient care – their reliance on coercion and control, which are made more explicit in the case of ethnic minority clients – alternative interventions such as community-based crisis residential facilities, and home treatment services ought to be developed as in integral part of the spectrum of care available to all patients.

Training

All staff who are likely to have contact with black patients (both inside and outside the health service) must be given special training on culture and mental health, the impact of racism on the perceptions of staff, the common stereotypes and discriminatory attitudes and behaviour of the staff.

Furthermore, staff must have specific training in strategies of engagement with people experiencing serious mental illness. All provider Trusts serving populations containing ethnic minority groups should

identify someone in senior management trained to take specific responsibility for ethnic minority issues. This should include the nature and adequacy of service provision for ethnic minorities, training on ethnicity and mental health for the staff, monitoring service usage by ethnicity, consultation with local ethnic minority groups and achieving targets set in advance on a year to year basis.

All staff should receive basic training in the principles of community-based care and the alternative service models which are available where traditional hospital based care is no longer appropriate or is not acceptable to the community being served.

Staff should have basic training in the place and techniques of service evaluation in the development of higher service standards and evidence-based intervention.

Appendix 6: Linkworkers in primary care: checklist for HAs and PCOs[258]

This checklist is designed to remind commissioners and providers of primary care of questions that may be relevant to them in establishing and supporting linkworkers in primary care. There will be further points that need to be added in the light of local experience as primary care develops. Few schemes have, or are likely to have, addressed all questions in a wholly satisfactory way. However, working towards comprehensive answers to the questions raised in the checklist should enable schemes to be more effective and sustainable and should provide a framework for increasing quality in linkworker schemes as well as better training and support for linkworkers themselves.

Strategic framework

- Is there an agreed strategy for improving ethnic minority health and access to health services?
- How does the linkworker scheme contribute to the development of a local strategy for improving ethnic minority health and access to health services?
- Who is involved in developing a local health strategy for improving ethnic minority health and access to health services?
- Are there robust links between the NHS, local authorities, voluntary organisations and the wider community in developing a local strategy?

Assessing need

Has there been an assessment of the local need for linkworkers that:

- Uses demographic information about the local population?
- Uses projections on future population changes?
- Uses morbidity and mortality data?
- Uses current information on language needs?
- Reflects discussions with local communities on need?
- Involves all types of primary health care staff (not only GPs)?
- Reaches out to engage small minority communities, and those who may be less well represented by effective community organisations?
- Includes discussions with the appropriate local authorities?
- Includes an audit of existing relevant, local services?
- Is there a mechanism for recording unmet need that falls outside the scope of existing services for ethnic minorities?

Defining the linkworker's tasks

- Has there been explicit discussion to clarify the role(s) of linkworkers, and to define the nature and scope of what they will do, and what they will not do?
- Have professional and lay interests been taken into account in defining tasks and priorities?

Management and supervision of linkworkers

- How will linkworkers be line managed and to whom will they be accountable?

- If joint funded, are there clear management arrangements that are acceptable to all funders?
- Has the line manager sufficient time in which to manage postholders, bearing in mind the likelihood of front-loading of management time at the outset of new schemes?
- What means of appraisal will be used to assess linkworkers' performance, and how will the appraiser develop competencies to carry out this appraisal?
- Are there clear Service Level Agreements in place between commissioners and providers?
- Is there a means by which linkworkers can access professional advice from someone other than a line manager, if required?
- Has there been discussion/decisions on whether/how to involve local communities in management arrangements?

Funding

- Has there been a clear estimate of the overall costs of starting up and maintaining linkworking?
- Is the cost of linkworkers (including management and administration) to be met through mainstream funding?
- What is the duration of the funding commitment?
- Has full use been made of available external funding sources?
- If funding is time-limited, what arrangements are in place to secure future funding?
- If long-term funds are unlikely to be available, has a full assessment been made of the case for and against establishing short-term schemes?

Monitoring and evaluation

- What performance measures and indicators of outcome have been agreed?
- Is there agreement on what would constitute a successful outcome of linkworker involvement?
- Does the process of agreeing and reviewing performance measures and outcomes include professional and lay interests?
- What monitoring arrangements are in place to ensure an appropriate level and quality of service?
- How can the community be involved in monitoring and evaluating services?

Recruitment and selection of postholders

- Is there a clear job description for the post(s)?
- Is there a clear person specification that relates to the job description?
- Does the person specification pay proper regard to valuing applicants' life experiences, voluntary and community activity, and show evidence of understanding of the needs of the communities to be served?
- Has there been consultation with local communities on the relevance of the job description and person specification?
- Who will be involved in the selection of postholders? Will there be community/lay involvement in selection, and if so, how?
- Where will posts be advertised and publicised in order to maximise access by relevant communities?

Training

- What arrangements have been made for induction training?
- What arrangements are in place for in-service training?

- Are there effective links with local colleges, etc. to ensure their input to curriculum development and delivery of training programmes?
- Have there been discussions with professionals, community workers, community organisations and patients on content of training courses?
- Does the training programme for linkworkers include:
  - communication and language skills?
  - understanding how the NHS works?
  - input on local policies?
  - understanding of other relevant services (e.g. social services)?
  - cultural and religious issues?
  - assertiveness and confidence-building?
  - input on relevant health/medical issues?
  - needs assessment?
  - community development?
  - negotiating skills?
  - information on anti-discrimination legislation?
- How will training be financed?
- Have local communities been invited to contribute to training courses?
- Have arrangements been made to ensure that all colleagues (including doctors of all levels of seniority) have access to training to enable them to understand the roles of linkworkers and to work effectively with them?
- Is anti-discrimination training and equal opportunities training mandatory and available for all staff?

Administration and support

Have arrangements been made for:

- desks and office space?
- health and safety provision?
- access to telephones, bleeps, etc?
- clerical/secretarial assistance?
- name badges?
- advising switchboard and local information services of start date, availability of workers?
- out-of-hours cover?
- cover for sickness, holidays and study leave?

Appendix 7: Recommendations for cervical screening services for women from ethnic minority communities in primary care[182]

The following are suggestions for health authorities, and the new Primary Care Commissioning Groups in particular, to consider as an integral part of their commissioning strategy in the development of an equitable and quality screening service in primary care.

There is a responsibility upon the screening services to ensure that ethnic minority women, particularly those whose first language is not English, are informed of the purpose and the procedure of the cervical screening programme.

The screening service should uphold the principle of informed choice. Opportunistic screening of ethnic minority women without information should be actively discouraged.

In order to address the issue of inequality of access to the cervical screening service, ethnic monitoring, and auditing of uptake among ethnic minority women should form part of the health improvement programme in primary care.

Health professionals who have the responsibility for smear-taking should undergo a programme of intercultural communication.

Where a district has a sizeable ethnic minority population, a ''Community Health Educator Model'' should be adopted to facilitate access to the service by ethnic minority women as an integral part of primary care with due regard to language support. The spirit of partnership between health promotion departments, ethnic minority communities and primary care in developing this model should be stressed.

Inter-district collaboration, and pooling and sharing resources are essential strategies in addressing the issue of small and scattered ethnic minority populations, such as typify the Chinese, Vietnamese and Yemeni communities in the UK.

A Cervical Screening Training Pack for Minority Women should be distributed to all Public Health and Health Promotion Departments in England and Wales.

As a principle of good practice, smear-taking medical professionals in primary care should make use of photo-audio pack tools for informing ethnic minority women who may have language needs before they proceed with a smear test.

Further research is needed to test the robustness of Community Health Educator models in the context of women from areas of low uptake who do not experience language differences.

Appendix 8: Model service specification for haemoglobinopathy services[107]

Health promotion should be included in all relevant contracts. These specifications are relevant for commissioners and providers of services including voluntary organisations.

The level of service that is appropriate in each area will depend on the number of people at risk, but all purchasers should ensure that staff understand about the management of patients with haemoglobin disorders in emergencies and that services are purchased from centres that meet these specifications.

1 A senior manager has responsibility for co-ordinating and developing services for haemoglobin disorders.

Health promotion

2 There is a strategy for haemoglobin disorders developed with health and local authorities, providers, GP's voluntary agencies, trade unions and business, covering:
   - the general population
   - at-risk groups
   - people affected and their carers
   - police, prison and probation services
   - employers and businesses.

3 The health promotion programme includes:
   - working on needs identified with community groups
   - supporting local self-help groups
   - developing appropriate health information
   - professional development.

4 There is a programme for raising awareness about haemoglobin disorders, including:
   - schools and further education colleges
   - primary care
   - employers
   - religious and community groups
   - local authority services
   - the media.

5 There is a range of materials available in appropriate languages including:
   - leaflets
   - posters
   - audio and video cassettes
   - drama and teaching packs for schools.

6 These materials have been selected and developed with local users and the district health promotion service.

7 Health promotion materials are available free to GPs, antenatal clinics, health centres and within the community.

Primary care

8 All GPs with significant numbers of people from relevant ethnic groups on their lists are encouraged to take part in haemoglobinopathy screening, including:
   - preconception advice for women of child-bearing age, including family planning
   - opportunistic screening
   - testing partners and family members of carriers
   - screening new patients joining the practice.

9 There is information and guidelines on patient care for GPs including:
   - appropriate care for acute illness
   - routine screening for signs of long-term consequences
   - appropriate strategies for maintaining good health and avoiding situations which can precipitate ill health.

10 All staff involved with haemoglobin disorders are trained in giving accurate information.
11 Appropriate information is distributed to practices to be given to patients about screening and self-management.
12 All GPs are informed of the results of tests on their patients and neonates born to patients.

Screening

General and opportunistic screening

13 All screening services should be associated with an adequate educational and counselling service.
14 There are protocols for screening programmes including:
   - informed consent
   - confidentiality
   - report back of test results
   - communication of test results to GPs.

15 There is a quality control programme to check the accuracy of results of screening tests.
16 Those tested are issued with a certificate of testing, showing the result of their blood test, their carrier status and the centre responsible for the test.
17 Preconception advice is included in all family planning and fertility clinics.
18 Opportunistic screening is offered at 'well woman' and 'well men' clinics.
19 The coverage and take-up of screening is monitored.

Antenatal screening

20 Antenatal screening is offered early enough to allow at-risk couples be identified by ten weeks of pregnancy.

Neonatal screening

21 There is a protocol for determining which neonates are screened.
22 Neonatal screening is carried out in association with phenylketouria and hypothyroidism screening at one to two weeks of life.
23 Parents and GPs are informed of the results of neonatal screening and the implications of these results.
24 Results are included in the child health record.

Counselling

25 There are counselling services available:
- Before screening
- After screening
- For families of carriers and patients
- Associated with long-term management of patients with major disorders.

26 Information is offered to all people with positive results in the language if their choice.

27 Counsellors work as part of a multidisciplinary team dealing with all aspects of care in hospitals and the community.

28 Counsellors have training in:
- counselling
- genetic counselling and haemoglobin disorders.

29 There sufficient specialist haemoglobinopathy counsellors to meet the needs of both primary health care and hospitals.

30 Counselling services are:
- available in appropriate languages
- sensitive to cultural and religious needs of users
- appropriate to the needs of young people.

31 Counselling services are widely advertised and accessible, including drop-in sessions for people worried about the condition or those who think they may need a test.

32 Counsellors have links with local groups for those affected and their families, and offer them support.

Professional development

33 A training programme about the haemoglobin disorders and appropriate management is provided for key staff, specifying the objectives, volume, methods and evaluation of training.

34 Training is provided to key workers including:
- haematology staff
- accident and emergency staff
- maternity services staff
- child health services
- the primary care team
- school health services.

35 Training in genetics and genetic counselling is multidisciplinary to encourage co-operation between the profession and agencies.

Joint working

36 Haemoglobin disorders are identified in the community care plan.

37 There are guidelines for schools, youth workers, child and family services, housing and environmental health on haemoglobin disorders.

Monitoring and evaluation

38 Services are regularly monitored to assess their appropriateness and effectiveness, including:
- regular reports from providers
- monitoring services by user groups

- clinical audit (including medical audit in primary care)
- user surveys to get feedback on whether health promotion messages are received and how effective they are
- community liaison to get feedback from the community on its needs, the appropriateness of materials and the effectiveness of campaigns
- complaints received.

Appendix 9

In addition to the resources listed in the main text and the references, listed below are website addresses resources that may help in assessing health care needs locally. This is not an exhaustive list, but provides 'gateways' to other sites.

The King's Fund is an independent health care charity working for better health in London. They also work nationally and internationally and carry out research and development work to bring about better health policies and services.

- http://www.kingsfund.org.uk/health_topics/black_and.html

The Centre for Research in Ethnic Relations is an national academic centre for research and teaching in the field of ethnic relations and houses unique collections of primarily British non-book materials covering a wide range of issues in ethnic relations. The 'Ethnic Health File' of the Clinical Sciences Library, University of Leicester, is included in the main database.

- http://www.warwick.ac.uk/fac/soc/CRER_RC/

The Health Development Agency (HDA) is a special health authority that aims to improve the health of people in England. There are many links to other sites through its database (HealthPromis, http://healthpromis.hda-online.org.uk/).

- http://www.nice.org.uk/page.aspx?0=295458

The Health Action Zone site provides the latest on developments on the health action zones around the country.

The Department of Health (England) site provides information on many topics relevant to ethnic minority communities.

- http://www.doh.gov.uk/

The Office of National Statistics contains the latest comprehensive range of official UK statistics and information about statistics. In addition, information on all the major national surveys on health and health care can be accessed.

- http://www.statistics.gov.uk/

The **Accessible Publishing of Genetic Information** (ApoGI) site provides genetic information both to health workers and to affected individuals.

- http://www.chime.ucl.ac.uk/APoGI/

Health Care Needs Assessment site has a number epidemiologically based needs assessment reviews relevant to health of ethnic minority communities.

- http://hcna.radcliffe-oxford.com/bemgframe.htm

The **General Medical Council** has issued guidance that highlights best practice and current legislation in diversity and equality issues:

- http://www.gmc-uk.org/guidance/library/valuing_diversity.asp

Appendix 10: Update on surveys

In this appendix we update the health needs assessment using two surveys: the 2001 Census and the Health Survey for England (HSE) 1999 that focused on the health of minority ethnic groups. PG updated the Census 2001 and RB the Health Survey for England data.

Census 2001

As shown in **Box 2**, the Census 2001 question was significant as it asked questions on people of Irish descent and mixed parentage. Also, for the first time, the Northern Ireland 2001 Census included an ethnic group question thereby providing a comprehensive picture of the UK population ethnic group.

However, both the Scotland and Northern Ireland Census Offices adopted a modified version of the ethnic group question to that used in England and Wales (**Table A10.1**). In both England and Wales and Scotland, a 'two-tier' question was used: people were first invited to choose whether they were 'white', 'mixed', 'Asian', 'Black' or 'Other' and then directed to choose a more specific category within these broad groups. In Northern Ireland, a single-tier question was used. The relationship of the three questions and the way in which they relate to the 1991 Census categories is detailed in **Table A10.1**.

Census data is available by country at: http://www.statistics.gov.uk/statbase/explorer.asp?CTG=3&SL=&D=4712&DCT=32&DT=32#4712 (for England & Wales), http://www.scrol.gov.uk/scrol/common/home.jsp (for Scotland) and http://www.nisra.gov.uk/Census/Census2001Output/standard_tables1.html (for Northern Ireland).

Ethnic composition of the UK

In the 2001 Census over 4.6 million people (7.9%) identified themselves as belonging to one of the non-white ethnic groups. South Asians formed 3.5%, with the Black group accounting for 2.0% and the Chinese 0.4%. Note that in the UK there are 677 117 (1.2%) people belonging to the mixed ethnic group category (**Table A10.2**).

Geographical distribution across the UK

Although the BMEG population is distributed throughout the UK, there are large clusters particularly in the London region (45%), followed by the West Midlands (12.8%) and the North West (8.1%) regions. Not surprisingly, the largest proportion of the mixed ethnic group reside in the London region (33.4%), which also has the largest proportion of the Black ethnic group (**Table A10.3**).

Unemployment rates

There is large variation in unemployment rate by ethnic group (**Figure A10.1**) with the highest rate amongst males except for the Pakistani and Bangladeshi groups where it is higher in females (**Figure A10.1**). Overall, the highest rates are found in Men – Other Black followed by the mixed group (White/Black-Caribbean).

Table A10.1: Census ethnic group classification in 1991 and 2001.

1991 Great Britain Equivalent	England and Wales	Scotland	Northern Ireland
White	White: British	White Scottish Other White British	White
	White: Irish	White Irish	
	White: Other White	Other White	Irish Traveller
Black – Other	Mixed: White and Black Caribbean Mixed: White and Black African	Any Mixed Background	Mixed
Other – Other	Mixed: White and Asian Mixed: Other Mixed		
Indian	Asian or Asian British: Indian	Asian, Asian Scottish or Asian British: Indian	Indian
Pakistani	Asian or Asian British: Pakistani	Asian, Asian Scottish or Asian British: Pakistani	Pakistani
Bangladeshi	Asian or Asian British: Bangladeshi	Asian, Asian Scottish or Asian British: Bangladeshi	Bangladeshi
Other – Asian	Asian or Asian British: Other Asian	Asian, Asian Scottish or Asian British: Any other Asian background	Other Asian
Caribbean	Black or Black British: Caribbean	Black, Black Scottish or Black British: Caribbean	Black Caribbean
African	Black or Black British: African	Black, Black Scottish or Black British: African	Black African
Other	Black or Black British: Other Black	Black, Black Scottish or Black British: Other Black	Other Black
Chinese	Chinese or other ethnic group: Chinese	Asian, Asian Scottish or Asian British: Chinese	Chinese
Other – Other	Chinese or other ethnic group: Other Ethnic Group	Other ethnic Background	Other ethnic group

Table A10.2: Ethnic group composition of the population in 2003 (%).

	Great Britain	England & Wales	England	Wales	Scotland	Northern Ireland	United Kingdom
White	91.9	91.3	90.9	97.9	98.0	99.3	92.1
Ethnic minorities	**8.1**	**8.7**	**9.1**	**2.1**	**2.0**	**0.7**	**7.9**
Mixed	1.2	1.3	1.3	0.6	0.3	0.2	1.2
Black	2.0	2.2	2.3	0.2	0.2	0.1	2.0
Black-Caribbean	1.0	1.1	1.1	0.1	0.0	0.0	1.0
Black-African	0.8	0.9	1.0	0.1	0.1	0.0	0.8
South Asian	3.6	3.9	4.1	0.8	1.0	0.1	3.5
Indian	1.8	2.0	2.1	0.3	0.3	0.1	1.8
Pakistani	1.3	1.4	1.4	0.3	0.6	0.0	1.3
Bangladeshi	0.5	0.5	0.6	0.2	0.0	0.0	0.5
Chinese & Other	1.3	1.3	1.4	0.5	0.6	0.3	1.2
Chinese	0.4	0.4	0.4	0.2	0.3	0.2	0.4
Total population	57,103,927	52,041,916	49,138,831	2,903,085	5,062,011	1,685,267	58,789,194

Table A10.3: Regional distribution of ethnic groups.

	Share of UK population by ethnic group					
	White	Mixed	South Asian	Black	Chinese & Other	Minority ethnic groups
ENGLAND	82.5	95.0	96.5	98.6	92.8	96.2
North east	4.5	1.8	1.5	0.3	1.9	1.3
North west	11.7	9.2	10.3	3.6	7.6	8.1
Greater Manchester (Met County)	4.2	4.9	6.3	2.6	3.9	4.8
Yorkshire and Humber	8.6	6.6	10.1	3.0	4.7	7.0
West Yorkshire (Met County)	3.4	3.7	8.3	1.8	2.4	5.1
East Midlands	7.2	6.4	7.5	3.4	4.4	5.9
West Midlands	8.6	10.8	17.5	9.1	7.0	12.8
West Midlands (Met County)	3.8	8.1	15.6	8.3	5.3	11.1
East	9.5	8.6	5.2	4.2	6.7	5.7
London	9.4	33.4	35.2	68.1	45.0	44.6
Inner London	3.4	15.9	12.3	39.6	17.9	20.5
Outer London	6.1	17.5	22.9	28.6	27.0	24.1
South east	14.1	12.7	7.8	5.0	11.8	8.4
South west	8.9	5.5	1.3	1.8	3.7	2.4
WALES	5.2	2.6	1.1	0.6	2.0	1.3
SCOTLAND	9.2	1.9	2.3	0.7	4.4	2.2
NORTHERN IRELAND	3.1	0.5	0.1	0.1	0.8	0.3
GREAT BRITAIN	96.9	99.5	99.9	99.9	99.2	99.7

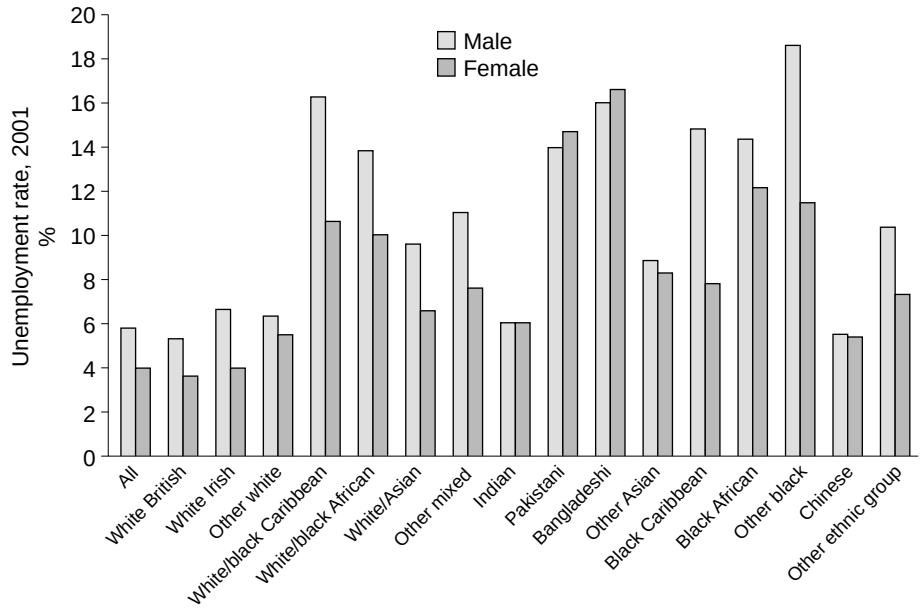


Figure A10.1: Unemployment rates by ethnic group and gender, England and Wales, 2001.

Age and sex structure

Figures A10.2–A10.12 show the age–sex pyramids for each ethnic group in Great Britain. The relative younger age profile of the minority ethnic groups is noted particularly in the mixed ethnic group.

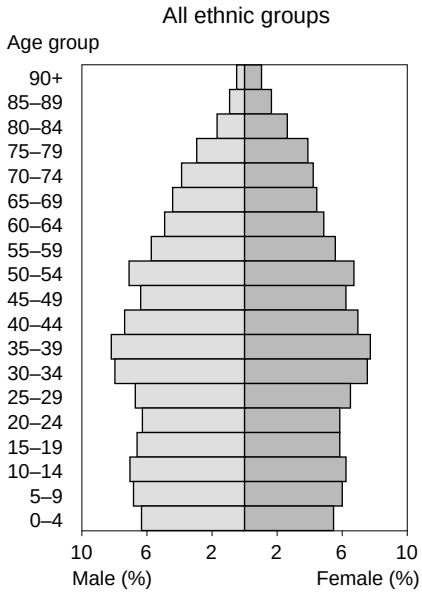


Figure A10.2: Population pyramid for all ethnic groups in Great Britain, 2001.

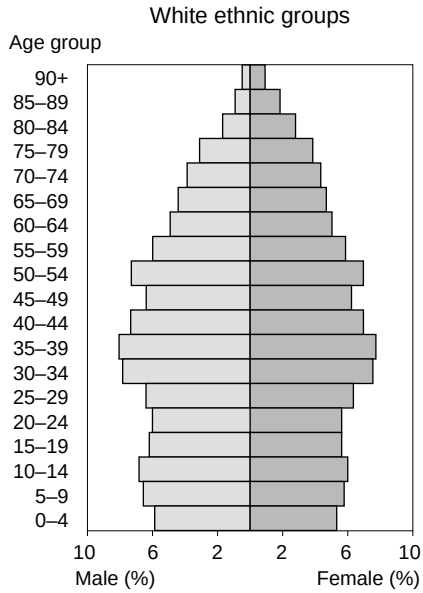


Figure A10.3: Population pyramid for white ethnic groups in Great Britain, 2001.

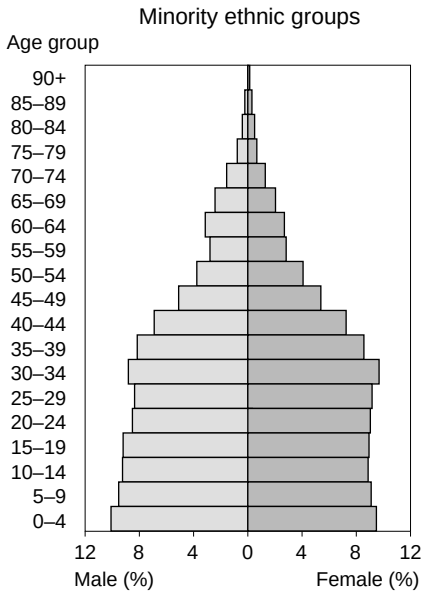


Figure A10.4: Population pyramid for minority ethnic groups in Great Britain, 2001.

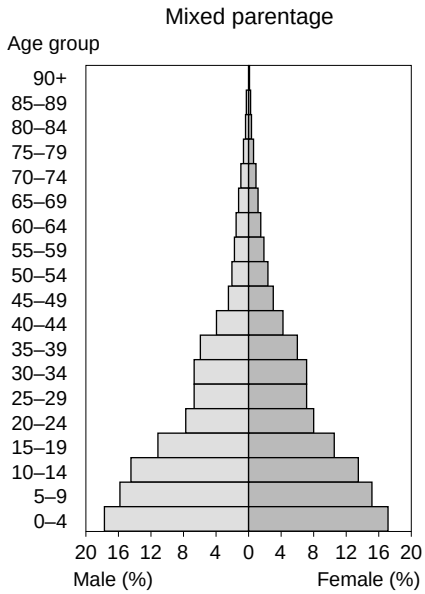


Figure A10.5: Population pyramid for mixed parentage groups in Great Britain, 2001.

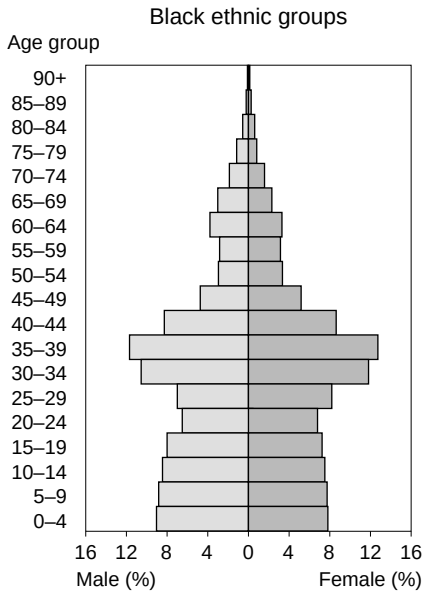


Figure A10.6: Population pyramid for black ethnic groups in Great Britain, 2001.

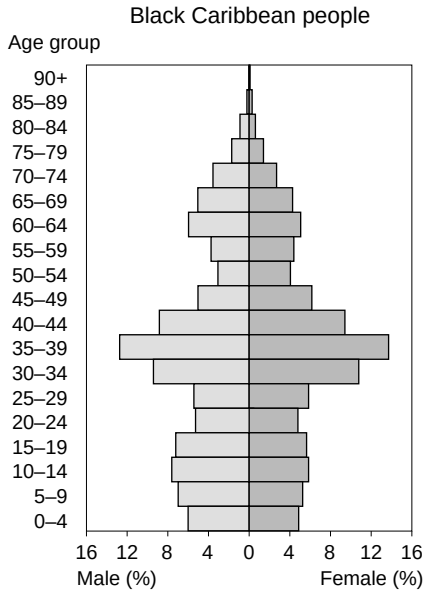


Figure A10.7: Population pyramid for black Caribbean people in Great Britain, 2001.

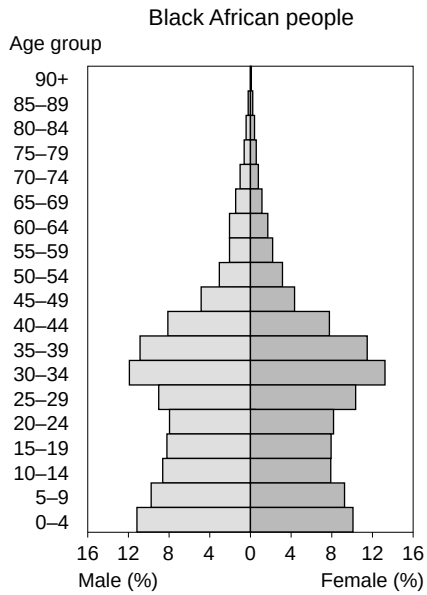


Figure A10.8: Population pyramid for black African ethnic people in Great Britain, 2001.

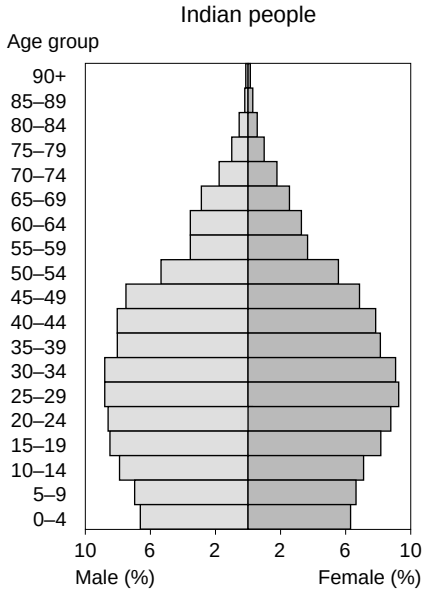


Figure A10.9: Population pyramid for Indian people in Great Britain, 2001.

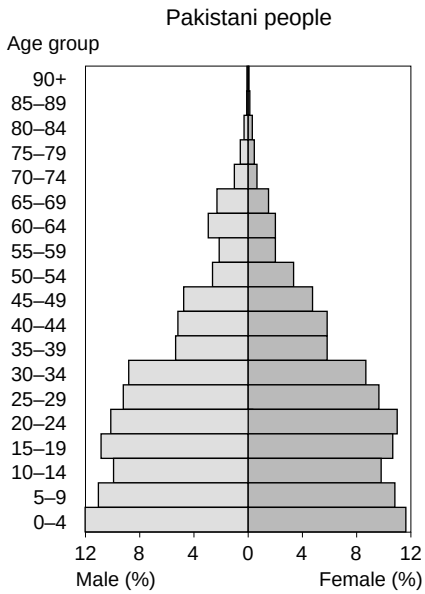


Figure A10.10: Population pyramid for Pakistani people in Great Britain, 2001.

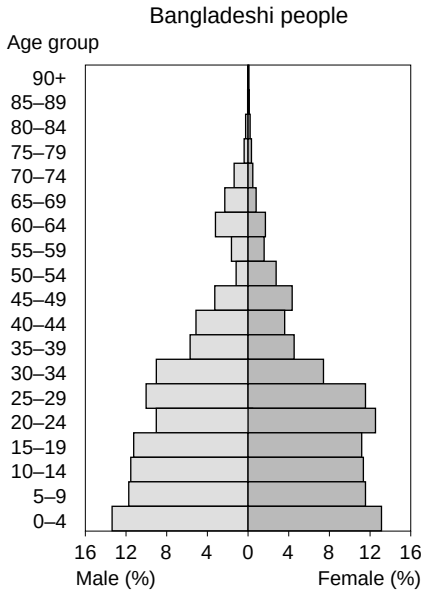


Figure A10.11: Population pyramid for Bangladeshi people in Great Britain, 2001.

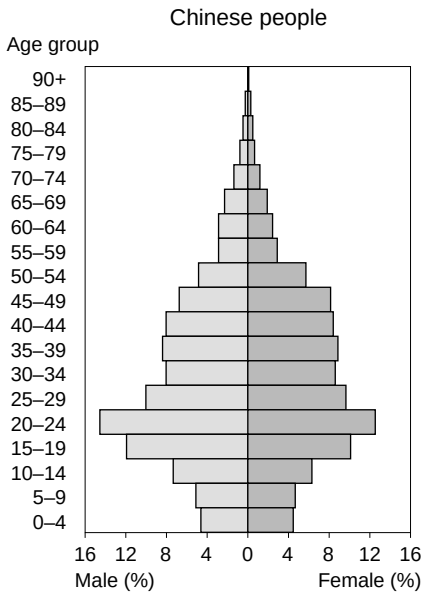


Figure A10.12: Population pyramid for Chinese people in Great Britain, 2001.

Health Survey for England: The Health of Minority Ethnic Groups 1999

This survey comprises the single most comprehensive database in the UK on ethnicity and health lifestyles, socio-economic circumstances and health status, in adults and children.

Further details of the scope, methodology and limitations can be found on www.doh.gov.uk/public/hse99.htm. Pending similar studies in Scotland, Wales and Northern Ireland, results from this survey should be extrapolated with care. Data from the survey is also available from the UK Data Archive based at the University of Essex (www.data-archive.ac.uk/).

Tables A10.4–A10.9 show the range of values for selected ethnic groups (see also **Tables 22–27**). For simplicity, results reported in these tables are not age-standardised or weighted for sample size.

Note also that in interpreting these data, readers should be aware of the low response rate for a number of variables/ethnic groups; the problem of self-reporting data in a range of languages and the cautionary remarks made in the main text around **Tables 21–27**.

By and large, these data support the main conclusions in the text on the health needs of BMEGs.

Table A10.4: Selected information on lifestyles, biochemical measures, physical measures, and self-reported health status for Indian men and women in the HSE '99.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
			Lifestyle factor			
Smoking	Current smoker (%)	620	651	23	6	The gradual rise in prevalence expected is shown in these data (**Table 22**).
Alcohol	Current drinker (%)	612	645	67	37	The prevalence is much higher in Indian women than in Nazroo's study.[84]
Physical activity in last month	No vigorous activity (%) for 30 minutes or more in last 4 weeks	626	657	30	35	A wide range of activities, including occupational, were included. The scale of the task is great.
			Biochemical measure			
Cholesterol	Mean (mmol/l)	379	376	5.4	5.0	These values are high, particularly as values in India are very low.
HDL	Mean (mmol/l)	379	376	1.3	1.4	A higher level is desirable.
Triglycerides	Mean (mmol/l)	187	179	2.3	1.5	Values are higher than reported by Bhopal *et al.* in all groups.[93]
			Physical measure			
Height	Mean (cm)	557	612	170.2	156.1	The HSE '99 shows that younger people are taller than older ones in every ethnic group.
Weight	Mean (kg)	548	573	73.2	62.7	
Waist/hip ratio	Mean	467	461	0.92	0.81	
BMI	Mean	527	572	25.2	25.9	The mean value is high, particularly in relation to comparable figures from India and noting that the cut-off for overweight ought to be much lower for South Asians.

Table A10.4: Continued.

Blood pressure	av. Systolic av. Diastolic (mmHg)	401	418	134 78	126 72	Higher than other South Asian groups, and comparable to the White population. The HSE '99 method gives a higher reading than standard methods.
			Self-reported health status			
Hypertension	Self-reported (%) and self-measured	401	408	35.7	16.1	Hypertension is common. However, we need to remember the method of measurement reads high.
Diabetes	Self-reported (%)	626	657	7.7	4.7	Diabetes is extremely common. Remember that self-reporting only picks up about 50% of those with diabetes.
Angina	Self-reported (%)	626	657	5.4	1.7	These figures show the burden of CHD in South Asian population.
Mental health	GHQ-12 score of 4 or more (%)	565	546	16	23	Mental health problems are common. A score of 4 or more of the GHQ-12 is equivalent to needing review for possible psychiatric problems.
Self-assessed general health	Very good (%)	626	655	28	19	

Table A10.5: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Pakistani men and women.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
			Lifestyle factor			
Smoking	Current regular smoker (%)	605	634	26	5	Smoking showing some rise in women in other surveys.
Alcohol	Current drinker (%)	601	631	10	3	Modest rise in comparison to other surveys.
Physical activity	No vigorous activity (%) for 30 minutes or more in last 4 weeks	620	643	32	39	A wide range of activities, including occupational, were included. The scale of the task is great.
			Biochemical measure			
Cholesterol	Mean (mmol/l)	301	281	5.0	4.8	
HDL	Mean (mmol/l)	301	281	1.1	1.4	The levels are undesirably low in men.
Triglycerides	Mean (mmol/l)	108	77	2.1	1.6	
			Physical measure			
Height	Mean (cm)	575	599	171.9	158.2	
Weight	Mean (kg)	557	551	75.1	66.1	Weight is undesirably high.
Waist/hip ratio	Mean	387	403	0.90	0.82	
BMI	Mean	556	550	25.4	26.5	The mean value is high, particularly in relation to comparable figures from India and noting that the cut-off for overweight ought to be much lower for South Asians. The values are high.

Table A10.5: Continued.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
Blood pressure	av. Systolic av. Diastolic (mmHg)	319	361	130 73	123 69	The levels are lower than in Indians and the White population but the risk of stroke and CHD is high so needs to be lowered.
				Self-reported health status		
Hyper-tension	Self-reported and measured (%)	319	361	25.5	12.3	
Diabetes	Self-reported (%)	620	643	8.7	5.3	Extremely high and yet less than half the true value.
Angina/MI	Self-reported (%)	620	643	2.9	1.5	
Mental health	GHQ-12 score of 4 or more (%)	488	464	18	22	
Self-assessed general health	Very good (%)	620	643	32	25	

* See notes on Table A10.4, which are generally relevant to this table.

Table A10.6: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Bangladeshi men and women.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
				Lifestyle factor		
Smoking	Current regular smoker (%)	520	549	44	1	Smoking is extremely common in men. The low value in women is likely to be an underestimate.
Alcohol	Current drinker (%)	512	540	4	1	There may be underreporting.
Physical activity	No vigorous activity (%) for 30 minutes or more in last 4 weeks	533	563	49	54	The Bangladeshi population is the most inactive of the groups studied.
				Biochemical measure		
Cholesterol	Mean (mmol/l)	198	176	5.0	4.7	Higher than desirable.
HDL	Mean (mmol/l)	198	176	1.1	1.3	Very low, and lower than other South Asians and the general population. Higher levels are desirable.
Triglycerides	Mean (mmol/l)	60	35	2.5	2.0	Very high.

Table A10.6: Continued.

			Physical measure			
Height	Mean (cm)	475	517	165.9	153.3	A short population, though younger people substantially taller than older ones.
Weight	Mean (kg)	414	411	65.5	56.6	Lightest among South Asians.
Waist/hip ratio	Mean	273	288	0.90	0.84	The ratios are high, indicating that there is central obesity even though Bangladeshis tend to be light.
BMI	Mean	409	408	23.8	24.1	Though comparatively low and lowest among South Asian and White populations, a lower BMI is still desirable.
Blood pressure	av. Systolic av. Diastolic (mmHg)	214	258	127 73	120 70	Lowest of all South Asians and the general population, and yet CHD and stroke mortality rates are still high.
			Self-reported health status			
Hypertension	Self-reported and measured (%)	214	258	23.6	12.3	On this measure BP prevalence is high.
Diabetes	Self-reported (%)	533	563	10.6	5.9	Very high.
Angina	Self-reported (%)	533	563	3.9	1.3	
Mental health	GHQ-12 score of 4 or more (%)	402	424	26	23	This population reports better mental health than other South Asian and general populations and that despite worse economic circumstances.
Self-assessed general health	Very good (%)	533	563	18	17	Self-assessed health is power.

* See notes on Table A10.4, which are generally relevant to this table.

Table A10.7: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Black Caribbean men and women.

Variable	**Measure**	**Number of subjects**		**Results**		**Comment**
		Male	**Female**	**Male**	**Female**	
			Lifestyle factor			
Smoking	Current smoker (%)	540	741	35	25	Smoking is common.
Alcohol	Current drinker (%)	525	726	87	82	Drinking alcohol is common.
Physical activity	No vigorous exercise (%) for 30 minutes or more in last 4 weeks	547	748	24	25	A wide range of activities, including occupational, were included. The scale of the task is great.

Table A10.7: Continued.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
			Biochemical measure			
Cholesterol	Mean (mmol/l)	285	368	5.0	4.9	
HDL	Mean (mmol/l)	285	368	1.5	1.6	The levels are satisfactory.
Triglycerides	Mean (mmol/l)	124	174	1.5	1.1	The value for males is higher than expected, Caribbeans usually have low TGs.
			Physical measure			
Height	Mean (cm)	483	671	174.2	162.8	
Weight	Mean (kg)	475	639	79.6	74	
Waist/hip ratio	Mean	363	513	0.88	0.82	
BMI	Mean	466	618	26.2	28.0	BMI levels are high and in men tend to reflect muscle mass, but in women obesity.
Blood pressure	av. Systolic av. Diastolic (mmHg)	287	432	136 75	129 72	Unusually, these levels are not particularly high compared to other ethnic groups possibly reflecting effective treatment. Nonetheless stoke is very common in this population, and average blood pressure too high.
			Self-reported health status			
Hypertension	Self-reported and measured (%)	287	432	41.9	28.8	As expected, the prevalences are high.
Diabetes	Self-reported (%)	547	748	7.8	7.9	Very high prevalence.
Angina	Self-reported (%)	547	748	1.9	2.2	
Mental health	GHQ-12 score of 4 or more (%)	492	686	16	23	
Self-assessed general health	Very good (%)	545	746	32	27	

* See notes on Table A10.4, which are generally relevant to this table.

Table A10.8: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for Chinese men and women.

Variable	Measure	Number of subjects		Results		Comment
		Male	Female	Male	Female	
			Lifestyle factor			
Smoking	Current smoker (%)	297	359	17	9	
Alcohol	Current drinker (%)	293	358	70	59	
Physical activity	No vigorous activity (%) for 30 minutes or more in last 4 weeks	301	361	31	31	The prevalence is low.

Table A10.8: Continued.

			Biochemical measure			
Cholesterol	Mean (mmol/l)	149	175	5.1	5.1	Surprising not lower than other minority groups.
HDL	Mean (mmol/l)	149	175	1.3	1.6	The challenge is to maintain these satisfactory levels.
Triglycerides	Mean (mmol/l)	77	101	1.6	1.5	Compared with Harland *et al.*'s data[94] these levels are high.
			Physical measure			
Height	Mean (cm)	285	346	168	156.2	The population is comparatively short.
Weight	Mean (kg)	287	343	68.2	57.4	The weights are satisfactory.
Waist/hip ratio	Mean	196	249	0.88	0.81	
BMI	Mean	409	408	24.1	23.6	Increases are to be avoided as it is likely that the threshold of BMI for overweight in Chinese is low, e.g. about 23 or less.
Blood pressure	av. Systolic av. Diastolic (mmHg)	173	219	131 76	125 71	
			Self-reported health status			
Hypertension	Self-reported and measured (%)	173	219	27.9	22.5	Mortality from stroke is comparatively high.
Diabetes	Self-reported (%)	301	361	4.2	2.6	The prevalence is comparatively high, e.g. compared to Harland *et al.*, and maybe heralding an epidemic of diabetes in Chinese.
Angina	Self-reported (%)	301	361	1.8	0.4	The prevalence is low.
Mental health	GHQ-12 score of 4 or more (%)	264	328	3	8	The data, at face value, suggest fewer psychological/psychiatric difficulties, but cross-cultural measurement of this type is difficult.
Self-assessed general health	Very good (%)	301	361	29	26	

* See notes on Table A10.4, which are generally relevant to this table.

Table A10.9: Selected information on lifestyles, biochemical measures, physical measures and self-reported health status for general population men and women.

Variable	Measure	Number of subjects		Results	
		Male	Female	Male	Female
		Lifestyle factor			
Smoking	Current regular smoker (%)	3,543	4,224	27	1
Alcohol	Current drinker (%)	3,516	4,201	93	87
Physical activity	No vigorous activity (%) for 30 minutes or more in last 4 weeks	3,558	4,240	23	28
		Biochemical measure			
Cholesterol	Mean (mmol/l)	4,874	5,458	5.5	5.6
HDL	Mean (mmol/l)	4,874	5,458	1.3	1.6
Triglycerides	Mean (mmol/l)	181	237	1.7	1.4
		Physical measure			
Height	Mean (cm)	3,282	3,908	174.6	161.2
Weight	Mean (kg)	3,274	3,792	81.2	68.4
Waist/hip ratio	Mean	6,095	7,135	0.91	0.81
BMI	Mean	3,204	3,699	26.6	26.4
Blood pressure	av. Systolic	5,409	6,483	137	133
	av. Diastolic (mmHg)			76	72
		Self-reported health status			
Hypertension	Self-reported (%)	5,401	6,483	40.8	32.9
Diabetes	Self-reported (%)	7,193	8,715	3.3	2.5
Angina	Self-reported (%)	7,193	8,715	5.3	3.9
Mental health	GHQ-12 score of 4 or more (%)	3,389	4,052	15	19
Self-assessed general health	Very good (%)	3,558	4,239	35	31

* See notes on Table A10.4, which are generally relevant to this table.

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Contributions

- PG, JK and RB were involved in the complete process from conception, detailed planning, writing, revising and editing of all sections. PG edited the whole chapter and led on sections 1, 2, 3 and 8; RB took the lead for section 4 with help from SW, who helped with analysis, interpretation and editing of data; and JK led on sections 5, 6 and 7.