

Developing health assessment for black and minority ethnic groups

Analysing routine health information
SUMMARY

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March 2000

**THE HEALTH OF
LONDONERS PROJECT**

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***Commissioned by the London Regional
Office of the NHS Executive in support of
improving the health of black and ethnic
minorities in London***

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Background

London is the most ethnically diverse city in the UK, with approximately one quarter of its population from a black or minority ethnic group and a number of important ‘white’ minority groups in addition to these. Recognition of ethnicity is an important element in pan-London strategies for the health of Londoners, as illustrated by the London Health Strategy (Coalition for Health & Regeneration and the Outline Strategic framework), the Association of London Government’s Race, Health and Social Exclusion Commission and The Health of Londoners Project Public Health Report for London. The recent Acheson Report also stressed the importance of specifically considering the health and service needs of black and minority ethnic communities when addressing inequalities in health.

There are a number of ways in which health and ethnicity are linked:

- The determinants of health may differ between ethnic groups. They include not only different population structures and genetics, but also cultural, generational and socio-economic factors with differential impacts on health.
- The prevalence of illness and of health related behaviours can be quite distinct for different ethnic groups. This will affect the balance of services within an area and the setting and achievement of health targets.
- Access to and quality of health and related services is a key issue. Services have to be responsive to differential health needs and be appropriate and acceptable to particular groups and to a culturally diverse population.
- A combination of the above factors leads to demonstrable differences in health outcome indicators for different communities. Such indicators are important in prioritising investment in the quantity and quality of services.

Table S1: Aspects of health where ethnicity and health inequality may be linked

Determinants of health	Prevalence of ill health/ Health behaviours	Service use	Health/Service outcomes
Age Sex Genetics Income Employment Education Housing Social networks Mobility and migration	Prevalence of specific diseases e.g. diabetes, Renal failure, cardiovascular disease Limiting long term illness Health behaviour and lifestyle	Health Services: Hospital Primary Care Community Services Social services Voluntary sector Private sector	Mortality Health status Satisfaction

It is therefore important that the planning and management of health promotion and treatment services takes these factors into account. In order to address this important dimension to health, we need to ensure that we are making the best use of both the quantitative and qualitative information on how patterns of illness and service use differ according to ethnicity. The analytical work described in the full report is one part of that much wider programme. This is a summary of the full report, outlining key issues, messages and examples of more detailed results.

Accessing information on London

Although ethnicity is an important factor in London's health profile, there are few routinely available information sources that shed light on ethnic differences. One that has often been used at a national level is the analysis of mortality by country of birth, typically based on figures around the 1981 and 1991 Census. Although mortality is far from perfect as a measure of a community's health status, it is one where routine sources of accessible data do exist. We felt it was important that such an analysis be undertaken specifically for London and on more recent data. Similarly the NHS has been collecting data on ethnicity of hospital admissions for some years, although this information has rarely been used mainly because of the problems with coding. This analysis has been concerned with ways of using that data on hospital treatments of Londoners despite these problems.

The deficiencies of both country of birth and ethnic group as measures of the complex concept of ethnicity are acknowledged. However, the need to make the links for London between ethnicity and inequalities in health, its determinants and the provision of health and related services justify exploring these large datasets.

Analysis of mortality statistics by country of birth

Mortality rates have been drawn from death registrations for London for the three years 1996-98, and the projected resident population for the same period. Several different models were tested to estimate populations by country of birth required for this approach.

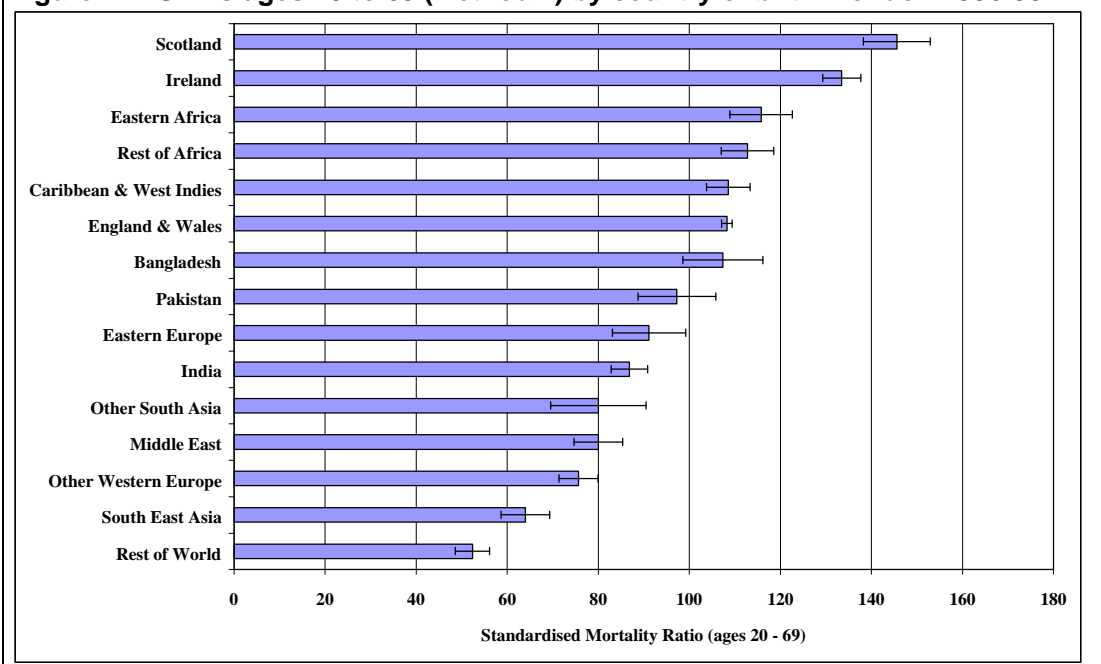
Estimates of relative mortality were found to be especially sensitive to the different models used to assess the size of the denominator population – especially for people born in Ireland & Eastern Africa. There are therefore significant methodological uncertainties when assessing the results, but the models err towards underestimating rather than exaggerating differences between country of birth groups.

Example box S1: All cause mortality rates at ages 20 to 69 by country of birth, London 1996-98

All cause mortality rates are a general health status indicator. As such they are not just an indication of the rates of deaths per year, but also indicate general levels of ill health and disease in a community. Rates below ages 65 or 70 are often used to describe premature mortality and by implication levels of death amenable to prevention. The values are standardised to take account of age and sex differences, so that values over 100 suggest more deaths per year and so poorer health than the England & Wales average. This indicator is strongly related to socio-economic factors and the highest rates are typically found in the least affluent communities.

The highest rates at ages 20 to 69 were found in Londoners born in Ireland, Scotland, Eastern Africa and the Rest of Africa. The rates for those born in Scotland and Ireland are particularly high, indicating 30-40 percent more premature deaths per year. The best health on this indicator was found in people born in the Middle East, South East Asia (which includes China) and Other Western Europe (i.e. excluding the UK and Ireland).

Figure 2.1: SMRs ages 20 to 69 (Method 4) by country of birth. London 1996-98



The all cause mortality rates for London by country of birth were found to be largely consistent with other studies of the UK population. For Londoners:

- All cause all age death rates for people born in Scotland, Ireland, East Africa were significantly higher than national averages.
- Premature mortality (at ages 20 to 69) showed greater differences with high values for a number of country of birth groups including Scotland, Ireland, Eastern Africa, the Rest of Africa, the Caribbean & West Indies and England & Wales.
- Significantly lower mortality rates were observed in Londoners born in South East Asia (including China), Western Europe (excluding UK and Ireland) and the Middle East.
- Relative mortality rates below age 65 tended to be higher in men than women for most country of birth groups.
- Mortality rates amongst Londoners born in South Asian countries tended to be better than average, although there were some exceptions (e.g. those born in Bangladesh aged 45 to 64).
- Mortality rates at ages 65 and over in London are generally better than national averages, and this seems to apply across most of the country of birth groups.

Comparisons of cause of death by country of birth

Given some of the problems with denominator population estimates, a proportional approach to assessing relative mortality was adopted. This method compares the proportion of deaths for a given cause with what would be expected from a national population. The results were expressed as a Proportional Mortality Ratio (PMR). The examination of differential mortality patterns by cause and country of birth for Londoners included some of the classic patterns that we would expect from national studies, for example, with respect to diabetes, coronary heart disease and stroke. The analysis also enabled an exploration of other causes where the pattern in London may be atypical, e.g. for infectious disease and respiratory disease. The analyses showed, for example:

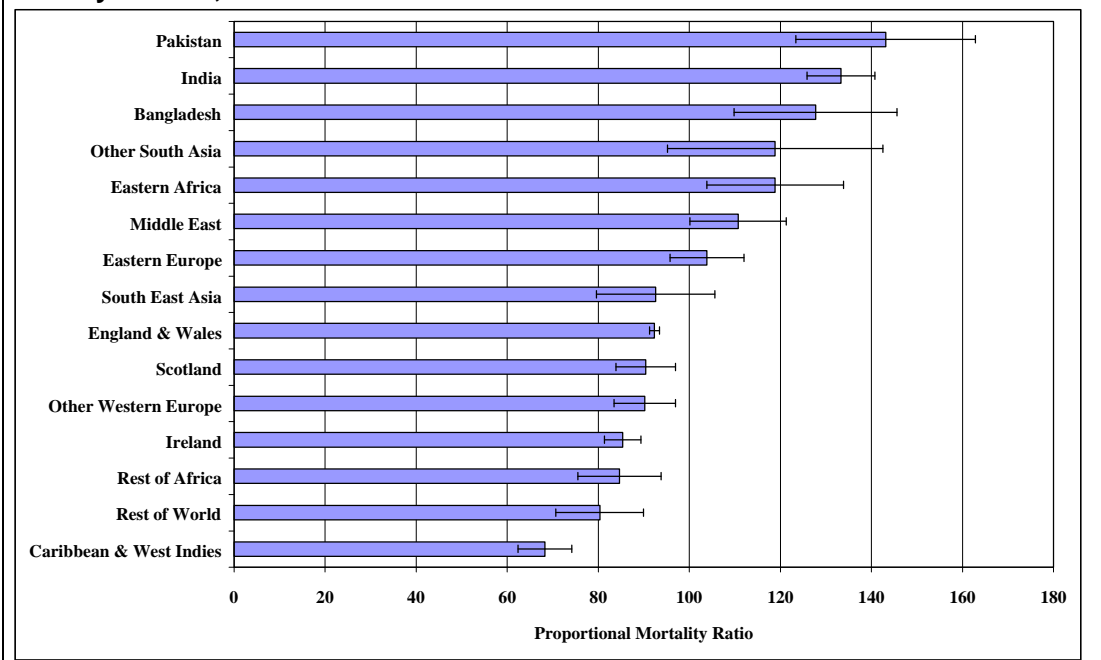
- Mortality rates from infectious diseases, including tuberculosis, were particularly high for some groups, reaching over 5 times higher than national averages for those born in Africa. Some of these differences may be linked with differences in the prevalence of HIV.
- The proportion of deaths from diabetes was over 4 times higher than average amongst people born in Bangladesh, the Caribbean & West Indies and Pakistan.
- Coronary heart disease mortality was 20-40 percent higher than average in people born in Pakistan and India, and about 30 percent lower than average amongst those born in the Caribbean & West Indies.
- Relative mortality from stroke was highest in people born in Bangladesh.
- Mortality from lung cancer was highest amongst those born in Ireland and Scotland and lowest in people born in the Indian Sub-continent and South East Asia. Mortality from prostate cancer was higher than average for Londoners born in the Caribbean & West Indies and the Rest of Africa.

Example box S2: Proportional mortality for coronary heart disease

Differences in the patterns of prevalence of heart disease and subsequent differences in mortality rates are well established in the literature. Coronary heart disease (CHD) is the leading cause of premature death in Londoners and a key factor in driving overall health status.

The London data indicates there are significantly more CHD deaths than average for Londoners born in Pakistan, India and Bangladesh. Mortality is much less than average (30 percent lower) among people born in the Caribbean & West Indies. The differential distribution of these ethnic populations across London will undoubtedly affect needs for preventive and treatment services. CHD mortality is also a key element in the national health strategy *Saving Lives: Our Healthier Nation* and the ethnic mix of an area will affect the ability to reach the specified targets.

Fig 3.3: Proportional Mortality Ratios (all ages) for coronary heart disease by country of birth, London 1996-98



Hospitalisation by ethnic group

The analysis of hospital admission rates by ethnic group has rarely been undertaken on a London-wide basis, mainly because of poor levels of coding. Although the completeness of ethnic coding has improved gradually, this analysis of approximately 1.3 million hospital admissions of Londoners in 1997/98 found nearly 40 percent of admissions uncoded.

Table S2: Summary of London-wide results on proportional admissions

Ethnic group	Diagnoses with high proportion of admissions	Diagnoses with low proportion of admissions
White	Cancers especially digestive, lung and breast Mental disorders Musculoskeletal disorders Injury & poisoning	Diabetes Pneumonia & COPD Cerebrovascular disease
Black Caribbean	Diabetes Prostate cancer Diseases of blood Mental disorders Cerebrovascular disease Childbirth & pregnancy	Infectious disease inc. tuberculosis Other cancers Respiratory disease Injury & poisoning
Black African	Infectious disease Diseases of blood Mental disorders Pneumonia Childbirth and perinatal conditions	Cancer Musculoskeletal disease Skin disorders Injury & poisoning
Black Other	Tuberculosis Diseases of blood Mental disorders Diabetes	Digestive systems Injury & Poisoning Cancers
Indian	Tuberculosis Diabetes Coronary heart disease Cerebrovascular disease Childbirth & perinatal conditions	Cancers Mental disorders Pneumonia
Pakistani	Tuberculosis Coronary heart disease & other circulatory problems Childbirth and perinatal conditions	Cancers Mental disorders Pneumonia
Bangladeshi	Tuberculosis Coronary heart disease & other circulatory problems Cerebrovascular disease Respiratory disease	Cancers Musculoskeletal diseases Injury & poisoning
Chinese	Cancer digestive system Diseases of blood Diseases of eyes and ears Congenital anomalies	Lung cancer Musculoskeletal diseases Injury & poisoning Diseases of nervous system
Other	Tuberculosis Coronary heart disease Perinatal conditions	Lung cancer Pneumonia & COPD Injury & poisoning

There were large differences between NHS providers in the level of ethnic coding – with a range from 2 to 95 percent of cases having no ethnic code. In addition, the analysis explored alternative methods for looking at coding consistency, which potentially adds another dimension

to consider when monitoring the quality of information. The results also point to possible inconsistencies in the use of the categories 'Black Other' and 'Other Ethnic Group'.

When uncoded cases were ignored, the relative admission rates for most black and minority ethnic groups were higher than expected given their proportions in the local population, with the highest rates among the Black Other (40 percent higher) and Black African (19 percent higher) groups. Admissions for the White, Black Caribbean and Chinese ethnic groups were slightly lower than expected. These patterns were found to vary by provider and by age and sex.

A proportional analysis of admissions by principal diagnosis was undertaken which showed differential admission rates by condition. Some of these differences were very large. For example, admission rates for tuberculosis were 5 times higher than average in the Black African group and only half the expected level among the Black Caribbean group. Table S1 presents a selected summary of the results showing some of the differences in admission patterns for broad diagnostic groups.

The same proportional approach was applied to the investigation of differences by ethnic group in a selection of NHS High Level Performance Indicators. Low values on indicators of access to surgery may indicate problems in delivering interventions of proven effectiveness in an area. Comparing relative admissions for cataract operations and heart surgery, i.e. coronary artery bypass grafts (CABG) and percutaneous transluminal coronary angioplasty (PTCA), higher than average rates were seen for some minority ethnic groups. This would be expected given differences in diabetes and coronary heart disease prevalence, although the relative admissions for Bangladeshis was not as high as might be expected. Admission for knee and hip replacements appeared to be lower for minority ethnic groups, suggesting, in the absence of any evidence on less need, poorer access.

The indicators for chronic disease should ideally be low, since care outside the hospital should prevent the need for hospital admission. There were higher rates for most minority ethnic groups for asthma and diabetes, possibly reflecting higher prevalence for some groups, or alternatively less effective primary care.

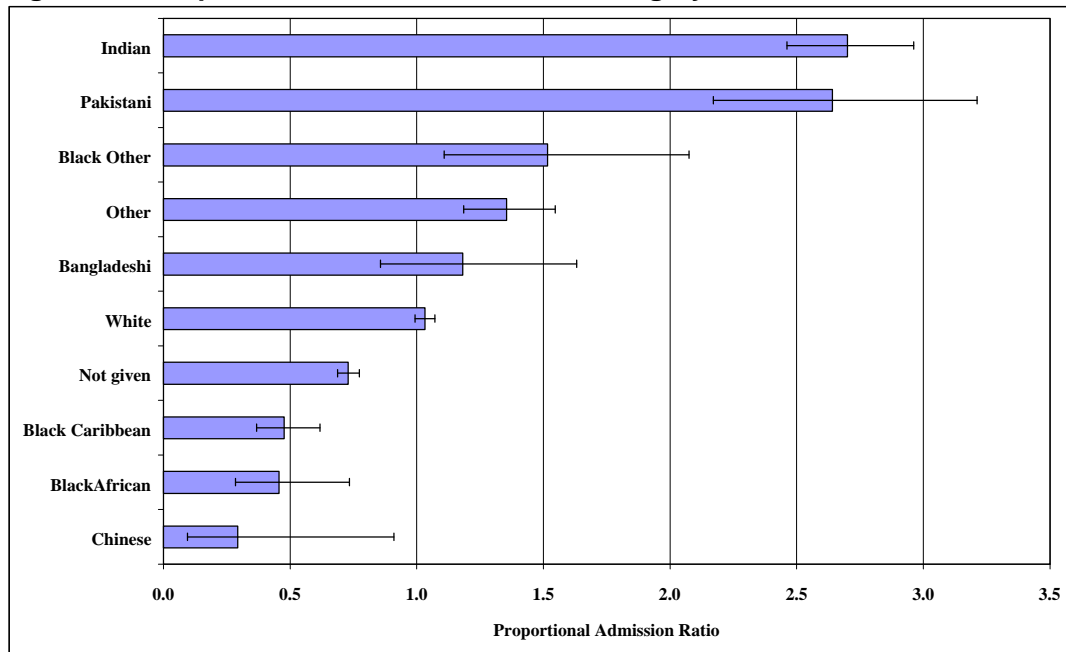
This approach demonstrates a potentially useful way of linking information on ethnicity to the broader performance assessment framework within the NHS. The ability to look at differential admission rates by ethnic group has not been done before for London's residents. The potential is enormous for linking these data with planning decisions to affect the size and nature of services in different areas. Such information on service use needs to be related to other intelligence on the patterns of ill health and the prevalence of disease by ethnic group. This is not straightforward. For example, the differentials in mortality described earlier relate to country of birth, which does not directly equate to the ethnic groups used in census and hospital data.

Example box S3: Access to heart surgery

Coronary artery bypass grafts (CABG) and percutaneous transluminal coronary angioplasty (PTCA) are both used in the treatment of heart disease. Admission rates for these procedures are used as a national indicator of access to surgery. The rationale is that they represent interventions of proven effectiveness and that differential admission rates between areas may suggest variable access and unmet needs. Local health agencies therefore need to ensure that local hospitalisation rates are not low when compared with prevalence rates.

The results suggest that across all of London, proportional admissions for Pakistanis and Indians are 2.5 times higher than average, which fits with the patterns of higher prevalence of coronary heart disease among South Asians. However, the rates for Bangladeshis are only just above average while we might expect admissions to be higher for this group, given the higher incidence of coronary heart disease.

Figure 4.1: Proportional admissions for heart surgery



The way forward

The analyses in this report should be considered as a starting point for further work on the health of minority ethnic communities in London that is linked to the London Health Strategy and the policies of key London-wide organisations. We have undertaken this work because we felt it was an important baseline for London but there is considerable scope for developing the analyses we have presented and refining the methods we have used. In particular, both the methods used and the results offer a resource for local agencies in both the statutory and voluntary sectors concerned with developing their own intelligence on health and ethnicity.

The elements described here are only small pieces of a jigsaw that links ethnicity to health in its widest sense. Other key elements include the ability to link the information about differential prevalence of disease to expected levels of service provision and to information about the effectiveness of interventions to achieve better health status and more equitable health outcomes. Just as important as the quantitative aspect is developing a common understanding of the qualitative differences in services that are appropriate for different ethnic groups. Such work needs to feed into local services in health and other sectors if we are to improve the cultural competence of organisations delivering care and support.

This work needs to be developed in Research & Development settings, and within service planning, commissioning and delivery. Within London and the rest of the UK there is a considerable body of academic and community-based expertise on all aspects of ethnicity and health that needs to be used in identifying and supporting relevant health policies. It is important that London makes the best use of expertise and intelligence on ethnic differences in health and the effectiveness of interventions from health and other sectors. This should also link in with work on the determinants of health and their impact specifically on black and minority ethnic populations. Such work should aim to provide shared resources for all London and for all sectors. The emerging Public Health Observatory for London would seem to be a good focus for such activity.

As part of this wider programme, there are some specific issues that can be addressed. For example, work in the **short term** needs to include:

- Improvement of ethnic coding in the NHS through performance management processes and comparisons of coding and applications of ethnic data. Mechanisms for clinical governance and audit may also be a useful way to facilitate better recording.
- Analysis of 1998/99 hospital admissions data – using the techniques employed here and reporting at a local level (where numbers permit) and with a wider range of indicators, for example waiting times for elective surgery by ethnic group.

In the **Medium Term**, work needs to include:

- Developing and applying methods for assessing health inequality in relation to ethnic minority groups. In addition to the analysis of existing data, there also needs to be work on

developing the methods for measuring inequality, and linking the results to strategic goals in health and other sectors.

- Exploration of how differences in mortality by country of birth relate to socio-economic variables such as social class, something that is possible (although not easy) with information from death certification.
- Developing an understanding of information about aspects of ethnicity not addressed here, such as language, religion and cultural and generational factors, which relate both to health and to health service provision.
- Developing the methodologies outlined above, as far as is possible, on a smaller-area basis to support the work of Health Authorities, Local Authorities, local voluntary and private sectors and Primary Care Groups in assessing differential health needs and issues of service delivery.
- Exploring health-related characteristics of those ethnic groups which are significant in London, but which are not readily identifiable from these datasets.
- A programme for reviewing the evidence of effectiveness of interventions specifically aimed at preventing or treating specific ethnic health problems. This should also consider evidence of the effects on inequalities in health and develop ways of disseminating and auditing good practice.
- Developing a common understanding of the qualitative differences in services that are appropriate for different ethnic groups.
- Relating population data to service information, e.g. staffing data by ethnic group, specialist service provision.

As part of the **longer term Research & Development** agenda, a contribution to some of the above issues would also be welcome, however the following would also be appropriate:

- Looking at the dynamics of London's diverse population - a product of migration into, out of and within the city, ageing and generational effects. For the future key issues could include, for example, the health patterns in the sons and daughters of migrants to London, and changes in service needs with population change over time and between generations.
- Preparing for the 2001 Census in respect of the revised classification of ethnicity, and use of other variables which may be appropriately linked to it, both within and across London.
- Looking at strategic development of information systems that enable the links between health and ethnicity to be made, for example the recording of ethnicity on birth/death registration. The relevance of using country of birth as a proxy for ethnicity will diminish over time. It is important to begin work on developing better information systems across different services.

Finally, there is an urgent need to promote service improvements in light of the available evidence, which is the ultimate justification for the collection and analysis of data such as those presented here.