Acute Health Services in London

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Seān Boyle and Chris Smaje

King's Fund Institute

for the King's Fund Commission
on the Future of Acute Services in London

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THE AUTHORS

Seān Boyle is a Health Information Analyst at the King's Fund Institute. Before joining the Institute in 1991 he was a senior statistician at North West Thames Regional Health Authority. His specific responsibility at the Institute is to monitor health and health care in London. This paper is an initial product of this on-going commitment.

Chris Smaje is a Research Officer at the King's Fund Institute. Previously he was Information Analyst at Camden & Islington FHSA. As well as his involvement in the Institute's work on health care in London he is committed to other areas of research, including the analysis of health issues relating to black and ethnic minorities.

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EXECUTIVE SUMMARY

London occupies a unique position in the provision of acute health care in Britain, in terms of resources consumed, the quantity of care provided and the institutional framework within which service provision takes place. It is a commonly held belief that London has more than its fair share of health care resources when compared with the rest of the country. In this paper we examine the validity of this contention, in respect of acute hospital services, within a comparative national framework which we have developed for the purpose.

Method → We first establish the comparative framework which underlies our whole approach. Using the statistical technique of cluster analysis, English health districts are divided into status groups according to the socio-economic and demographic characteristics of their resident populations. In this way we are able to divide London into three groups:

- established high-status areas;
- urban areas;
- inner deprived areas;

and we suggest three distinct non-London groups which will act as comparators for their London equivalents.

Our basic thesis is that London should not be compared with the simple national picture, but that like must be compared with like. The extent of resources in London is well-known, but this has not been addressed within a sophisticated comparative context.

We are concerned only with acute hospital services, although we acknowledge that the nature of other forms of health care will affect the needs of Londoners for acute services.

After establishing what health care resources are available in London, and where they are located, we look at how efficiently these resources are used. Finally, we establish the pattern of resource use in London – both who uses London's acute resources and what resources are Londoners themselves using.

There are seven major findings.

Resource Allocation & Management

- Looked at purely in terms of its own resident population, London is relatively over-resourced, both in terms of available beds and numbers of staff, but when related to comparable areas in the rest of the country, this is certainly not the case.
- Higher resource levels in London are reflected in higher levels of expenditure on acute care in London, even when compared to

similar areas in the rest of the country. Higher input costs are the main cause of this.

- London is technically less efficient than other areas of the country, which is revealed in lower throughputs and higher staffing levels; cost per acute case is higher, reflecting a degree of technical inefficiency but, more importantly, higher input costs: in overall economic terms, therefore, London is not an efficient producer of acute health services.
- Analysing inner deprived London in terms of teaching and non-teaching districts, we find that costs per acute case are considerably higher in the teaching districts; moreover, this trend is confirmed at the hospital level.
- London offers an expensive package of care in terms of the ratio of nursing to medical and dental (M & D) staff. However, within the medical and dental group there is a higher proportion of non-consultants to consultants, and this is reflected in an average whole-time equivalent (WTE) expenditure on M & D staff which approximates to the national figure.
- Londoners themselves use a higher than average proportion of hospital resources, but comparing like with like, there is no difference between London and the rest of the country.
- London acts as a net exporter of care: however, more interestingly, inner deprived London is a major provider of care to high-status London districts.

We show that hospitals in inner deprived London are particularly expensive providers of acute care, and that this is especially true of the major teaching hospitals. A number of contributory factors are discussed and further directions for detailed research are indicated.

While it is clear that there are core services which must be provided to London residents on a London site, it is equally clear that the present pattern of provision of expensive services to non-residents is unlikely to be sustainable in the long term.

CHAPTER 1

Introduction

It has become the accepted wisdom among health care professionals that London has more than its fair share of acute services relative to the rest of England: the ordinary citizens of London may not quite see things that way. It is the aim of this paper to set out a comparative framework for looking at the provision of acute services in London.

In doing so, we are following a tradition of research into the problems of London. In 1979, in *Acute Hospital Services in London*, the London Health Planning Consortium were concluding:

> *the distribution of acute hospital services in the Thames Regions remains, despite the many changes made in recent years, decidedly out of balance with the changed and changing distribution of population – so much so that patterns of use have been distorted.*
>
> (LHPC, 1979, p.32)

In this paper we shall see how little the overall picture has changed in the intervening years. As recently as 1990, in an article in the *Christian Action Journal*, Robert Maxwell commented on the continuing mismatch between London's health services and the health needs of Londoners.

One of the problems which our analysis faces is that there is no single body with overall responsibility for the provision of health services in London. At a planning level, responsibility is fragmented between the four Thames Regional Health Authorities, each responsible for its own sector of London, and moreover with a possibly conflicting responsibility for large areas of the rural South East of England – the Shires. In this paper, we bring together information from a variety of sources and present it in a way which focuses on the problems peculiar to London.

After outlining some definitional and methodological issues in Chapter 2, in Chapter 3 we look at the stock of acute services in London in terms of bed availability, human resources and financial resources. On the surface, there appears to be an over-provision of resources in London, but this needs to be examined carefully: we must establish the criteria we are using in considering under- or over-provision – relative to who or what – to provide a basis for examining the most suitable deployment of resources.

In Chapter 4, we look at some of the common measures of performance in the hospital sector in order to establish if there are any obvious anomalies in London. It is clear that special circumstances

prevail in London, the most obvious being a high-cost environment in terms of factors such as labour and capital. The wisdom of producing a higher proportion of hospital care than necessary within an expensive infrastructure has often been questioned. We attempt to shed light on this issue by addressing the question in terms of the relative efficiency of the health care system in London's hospitals. Hospitals in London may not be technically inefficient, but it may be economically inefficient to choose to produce health care in London. The determination of the appropriate environment in which to provide health care is an issue to which we return in the conclusion.

A second issue which arises is the difference in type of case treated in London – which we term the case-mix problem. More complex cases are likely to result in a higher cost per case, a factor which cannot be picked up when merely comparing such costs at the specialty level. Greater lengths of stay in hospital are sometimes associated with more complex case-mix. We look at this in some detail in the chapter on efficiency. We are also able to examine the issue by looking at differences in costs between those districts with teaching hospitals and those without.

London functions as a major centre for medical teaching and research in England. Approximately twenty-five per cent of doctors receive their training in the capital; the eight postgraduate centres of medical training are located in inner London health authorities – though administered independently of the Regional Health Authorities (RHAs) by the Special Health Authorities (SHAs), which are responsible directly to the Department of Health. The unique role that London plays in these processes constitutes an important dimension in health care planning, and must be borne in mind when considering the stock of acute resources in London.

In the early chapters we examine London purely in terms of the resources used relative to the size of resident population. However, the issue is considerably complicated by the nature of the patients treated in London's hospitals. Put simply, a large proportion of the work carried out in London's hospitals, particularly in the inner London teaching hospitals, is provided for non-residents of those areas. So a simple measure such as cost or acute bed stock per capita resident population does not give the full picture. We shall see in Chapter 5 that ten per cent of the cases treated in London are flows from outside the London area, and when we look more closely using our categorisation of inner deprived London areas (which will be defined in Chapter 2), the position is even more striking: the figure goes up to thirty per cent non-resident cases.

It may be valid to argue that it is not an efficient use of resources for patients to flow into the inner London districts in such great numbers and that there should be some relocation of hospitals out of London. It is also clear that we are currently witnessing a restructuring of service provision through a pseudo-market mechanism which may have enormous implications for patterns of patient flow in London.

In April 1991 a number of important reforms to the organisational structure of the National Health Service were introduced. It is not the

purpose of this paper to describe the reforms in any detail; a concise summary can be found in *The New National Health Service: Organisation and management* (Ham, 1991). However, some of the reforms are likely to have a major impact on the provision of acute services in London, thus altering the picture that we describe in this paper.

In particular, patient flows between districts are likely to change radically, after the initial period of "smooth take-off", when new arrangements for contracting between districts and units come fully into force. The division between, on the one hand, hospitals as providers of health care and, on the other, district health authorities (DHAs) as purchasers of health care for their residents brings into full relief the issue of hospital location as some form of optimal solution to a market process. The link between district and hospital is becoming more tenuous and, as it does so, hospitals will have to compete for patients on merit alone. Secondly, the planning role at regional and district level may undergo considerable change as trust status confers greater strategic autonomy at the unit level. Finally, it is possible that patterns of expenditure on staff will change as national pay scales are replaced by bargaining at the local level.

However, at the present time, the reforms are in their infancy and little information is yet available as to their effect. The primary purpose of this paper is to outline current patterns of acute health care in London on the basis of the latest available evidence. It is important to understand these current patterns, for it is on this basis that future plans and priorities will be set. In Chapter 5 we shall suggest that, although London may appear to be over-provided with acute hospital services relative to England as a whole, it is not the residents of London – or more particularly of inner deprived London, where the over-provision is most prevalent – who are the ultimate beneficiaries of this.

When the London Health Planning Consortium produced *Acute Hospital Services in London* in 1979, it reported an acute services hospitalisation rate among inner London residents in 1977 which was twenty-seven per cent higher than the England average. For 1989–90, we report a figure for inner deprived London – we shall argue in Chapter 2 that this is a more relevant categorisation – which is still seventeen per cent higher. There may be socio-economic and demographic arguments which point to higher needs in inner deprived London – these issues are examined in detail elsewhere (Benzeval *et al.*, 1992): nevertheless, we can point to a relative decline in hospitalisation rates in inner deprived London.

Throughout this paper, the main source of the comparative data is the English national data set which the Department of Health (1991a) used to produce the Health Service Indicators package for 1989–90; this is supplemented from other sources where available. There are some historical comparisons presented, but these are rather restricted by a lack of readily available detailed data; in some cases the worth of such a historic perspective is not at all clear, particularly in view of the changes in definition which frequently occur.

A glossary of health service terms is presented, though generally the meaning should be clear from the context. A series of statistical

appendices are also included, and it is here that the heart of the data can be found. These are usually referred to by boxes in the main text, but there are also summary tables in each chapter, where appropriate.

Before looking in more detail at the provision of acute services in London, however, we need to establish what is meant by "London", what is meant by "acute services", and to provide a basis for comparison between London and the rest of England. The next chapter describes our approach to this.

CHAPTER 2

Some definitional and organisational matters

In this chapter we outline the comparative framework within which we shall be analysing data on health care in London. We then consider briefly the organisation and administration of hospital services in London; and finally, in the third section, we address the issue of defining "acute services".

London

London is most commonly thought of in terms of "inner" and "outer" London. The totality is usually taken to be the geographic area covered by the old Greater London Council (GLC) and is defined in terms of local authority boroughs. "Inner London" is then those boroughs which were the Inner London Education Authority (ILEA), and "outer London" is the remaining twenty boroughs. These are listed in Table A1.1 of Appendix 1.

However, local authorities are not strictly coterminous with district health authorities. Table A1.2 in Appendix 1 illustrates how the existing district health authorities are divided between inner and outer London. In the cases of Hounslow and Spelthorne, Kingston and Esher, and Barking, Havering and Brentwood, the DHA boundaries do in fact extend beyond London, though these are still generally regarded as London health authorities. It should also be noted that although Bloomsbury and Islington combined in 1990, the data to which we subsequently refer treat these DHAs as separate entities.

At the local government level the inner/outer London distinction can be thought of as corresponding quite closely to what were essentially administrative boundaries, but we shall see in the second section of this chapter that this is not the case for health authorities.

The utility of this administrative split for analytic purposes may be questioned. The London Research Centre analyses data on London both in terms of this administrative split and an alternative one which arose from the Greater London Development Plan, based on an analysis of demographic and housing characteristics: Haringey and Newham become part of inner London, and Greenwich joins the outer London authorities (London Research Centre, 1991). This may be thought of as a better reflection of the current characteristics of these areas.

In order to make a sensible assessment of the health needs of Londoners it is essential to set data about health and health care in the capital in a comparative context. At one level, London – or groupings of London districts such as the inner/outer distinction referred to already – can simply be compared with the rest of England. But for

many purposes it would make much more sense to compare separate and distinct parts of the capital with parts of England which are in some senses similar to them. For this to be possible, what is required is a technique for classifying different areas into a number of relatively homogeneous groups.

To this end, we have built upon the work of John Craig and his colleagues at the Office of Population Censuses and Surveys (OPCS). In 1978 they published a socio-economic classification of local authority areas based on the 1971 Census (Webber and Craig, 1978). Craig repeated this work using the 1981 Census, and extended it to a classification of health authorities (Craig, 1985).

The stated objective of Craig's 1985 paper was to obtain relatively homogeneous groupings of areas, based on the character of the population of these areas – as revealed by the 1981 Census. The statistical technique of cluster analysis was applied to the 1981 data for local authority areas of England, Scotland and Wales, to establish a number of clusters or groupings of areas. Craig then used this local authority-based classification to allocate health authorities to the same groupings. Such an approach has the disadvantage that the classification of health authorities is almost certainly different from one which would emerge if they themselves were the primary focus of the analysis. Craig balanced this against the fact that it allows health and local authority areas to be easily interrelated.

But a more important problem, for our purposes, is that he identifies no other areas in Great Britain with which to compare a large group of the inner London districts. It is perhaps worthwhile emphasising why this represents such a problem for analytical purposes. The most convenient way of undertaking comparative analysis of health and health care in London is to classify the capital's health districts into meaningfully distinct categories which form part of larger groupings of homogeneous areas in the country as a whole: given the way that administrative statistics are collected, this usually means England rather than Great Britain.

It would be perfectly possible to analyse a selection of data for all English health districts and to produce a completely different classification to Craig's which would facilitate the kind of analysis described above. We have taken the view, though, that there is some merit in retaining Craig's taxonomy where it is appropriate because it is so familiar, and that it makes sense to modify it only when that is essential. In the majority of cases, Craig's classification of English health districts is perfectly adaptable for our purposes. However, there remain seventeen districts in London for which no comparator group outside London has been identified. It is in relation to these that we propose to modify Craig's taxonomy.

Two key assumptions which guide our approach to the development of a revised taxonomy is that for health planning purposes there is a small group of hybrid authorities in the capital which straddle the conventional distinction between inner and outer London, and that in contrast to Craig we can identify reasonably homogeneous comparators for all London districts.

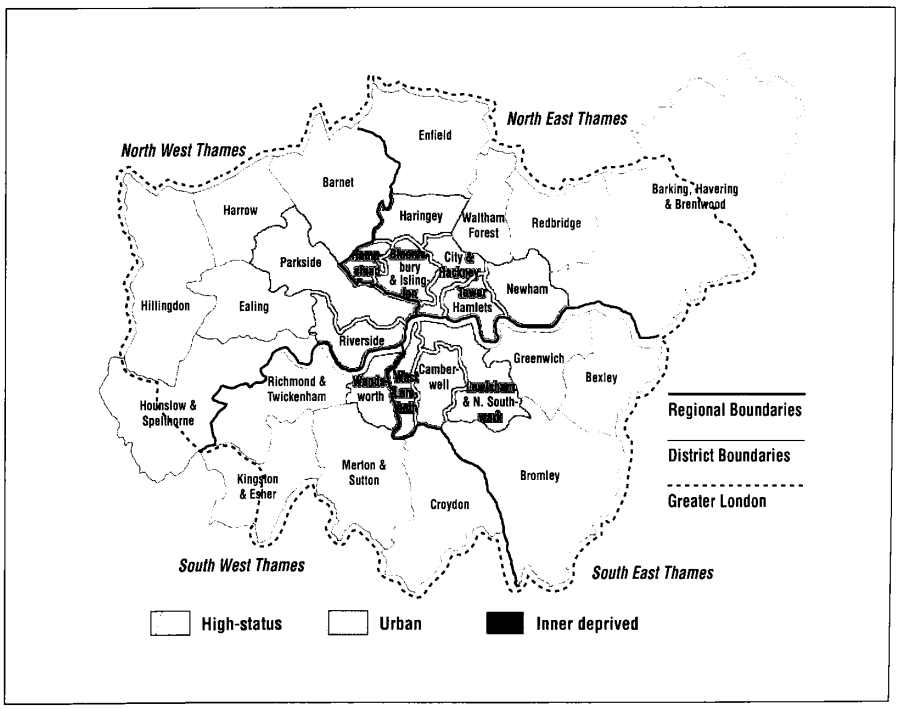
Our approach involves making use of the same statistical technique as Craig – cluster analysis – and similar kinds of census data. Craig used thirty-five variables which were thought of as reflecting five dimensions of the population in question: demographic structure, household composition, housing, socio-economic structure and employment. We have chosen to rely on a smaller range of variables, however, which are widely used for existing health planning purposes: the component parts of the deprivation indices developed by Carstairs and Morris (1989), Jarman (1983) and Townsend *et al.* (1986). This set of data consists of sixteen variables covering each of the five dimensions, rather than Craig's total of thirty-five: the broad coverage is very similar.

Our analysis was carried out using the SPSSX clustering facility. We were able to identify two new distinct groupings, each involving some of the London districts plus districts from other parts of England. This allows us to present an alternative classification of district health authorities, which is listed in Table A1.3 of Appendix 1. The classification is also illustrated for London DHAs in Figure 2.1. It differs from Craig's classification in that the inner London districts are divided into two families, each of which contains non-London as well as London districts.

In the case of Craig's family of deprived areas, it was clear that these London districts are very different from most other health districts in the country. The seven similar non-London districts which we have identified are intuitively acceptable as comparators, and account for a population of 1.5 million, compared to the 2.5 million of the thirteen

Figure 2.1

The District Health Authorities of London by status category



Box 2.1

THE ESSENTIAL CHARACTERISTICS OF THE COMPARATOR GROUPS

In Table A1.3 of Appendix 1 the London DHAs are listed by status group, and the equivalent-status non-London districts are also presented. We see that there are thirteen London DHAs in the inner deprived group (this is actually twelve now that Bloomsbury and Islington have combined) and seven non-London comparators; there are just four London districts in the urban group and thirty-four non-London comparators; finally there are twelve high-status London DHAs and twenty-three non-London comparators.

The statistical technique which we have used has created these groups on the basis of similarity in terms of socio-economic and demographic variables such as the percentage of the population employed, the percentage of owner-occupation and the percentage of the population living in overcrowded accommodation. Differences in the relative prevalence of such factors have commonly been associated with differences in the level of deprivation. This is not to say that there will not be differences in the values within groups, but overall they exhibit a pattern of values which is broadly consistent within these groups.

So how might we characterise each group? Looking at the inner deprived group first, in terms of the overall population, these districts tend to have a higher than average percentage of pensioners living alone. This is particularly true of London, where there is only one district – Newham – under the national average. They also have a high percentage of one-parent families. Not one district in this group falls below the national average. Again, they are characterised by high levels of unemployment, and we find substantially higher rates in all districts.

All of these districts have a considerably higher than average percentage of the population lacking basic amenities, and living in overcrowded accommodation – many districts have as many as three times the average number of people living in overcrowded conditions. Inner deprived residents tend not to be owner-occupiers; the average number of households which are not owner-occupied is almost fifty per cent greater than the national figure, and there is no district with less than the national average.

Residents of the London districts tend to be very mobile. This effect is not so marked in non-London districts. All inner deprived districts have a high percentage of their populations living in a household with no car, and in many cases this is almost twice the national average. Inner deprived districts tend to have a very high percentage of the population living in a household where the head of household belongs to an ethnic minority. There are some exceptions to this, but the average for these types of districts is over four times the national figure.

In the case of high-status areas we generally find the reverse of the pattern which held for inner deprived districts. The only exception occurs in the case of the ethnic minority variable, where, mainly because of London districts, the average is slightly above that of England as a whole. Thus a typical high-status district has considerably less unemployment than average, fewer one-parent families and a smaller proportion of pensioners living alone.

There are smaller proportions of the population than average living in overcrowded conditions and lacking basic amenities, and high-status district residents tend to be owner-occupiers. Finally, the proportion of high-status residents owning cars is considerably higher than average.

Residents of urban districts tend to be more deprived than average, as measured by the variables which we have used, but to a much lesser extent than the inner deprived district resident. In the London districts we find a substantially higher proportion of heads of household belonging to ethnic minorities.

So, to summarise, we find a gradient of deprivation over most of the variables we considered, from what we have termed the inner deprived areas to the high-status areas. There is some variation within status groups, but most districts within a status group usually have a similar position relative to the national average.

London districts. While it is true that there may be other districts with individual wards which are similar to those comprising these deprived London districts, we demonstrate in Box 2.1 that, at the DHA level, they form a very distinct grouping.

The London districts are divided into three groups which we have termed:

- established high-status areas;
- major urban areas;
- inner deprived areas.

We now have a set of non-London districts which can be used for the purpose of comparison in each case. If we consider those DHAs whose classification had seemed problematic: Haringey and Newham seem to fit rather naturally with the rest of the inner deprived London group, whereas Greenwich is now part of the small, urban grouping, whose peer group generally consists of smaller urban conurbations such as Preston, Coventry and Portsmouth. Although our taxonomy is based on socio-economic and demographic variables and not on the structure of acute service provision, we shall observe a high degree of consistency within each group when we come to compare the levels of acute resources between London and non-London.

We recognise that within any particular geographically defined area, such as a health authority, at a further level of sub-division, e.g. the ward, there may be areas which do not correspond to the overall categorisation of that authority: for example, within a DHA such as Hampstead, there are pockets of quite severe deprivation alongside some of the most sought-after residences in London. However, this problem will occur with any technique which might be applied, and we would argue that, in choosing the level of DHA, we are reflecting most closely the current organisational structure of the health service.

Throughout the remainder of the paper we shall rely heavily on the comparative framework as outlined above. In Box 2.2 we explain the basis of our tabulation for this. Nevertheless, it will be possible to look at the overall London position, and make comparisons with the simple national average, and on occasions we also make use of the conventional inner and outer London definitions – essentially for the purpose of comparison with figures from other sources.

The provision of hospital services in London

In the previous section, we outlined an approach to considering parts of London in terms of areas of similar characteristics. We now look at the structural framework within which acute hospital services are provided in London, and turn to the question of responsibility for the provision of health services in London, and in particular for the provision of acute hospital services to the seven million residents of London.

Although ultimate responsibility rests with the government of the day, over the years there have been various structures for administering

Box 2.2

PRESENTING TABLES USING CLUSTER GROUPS

When we come to present information within our comparative framework, typically we use graphs based on tables laid out in the following way: for each status category, figures are presented for the London and non-London districts. A total London and non-London figure is also presented. Finally the overall England average figure is given.

Table 2.1 is an example of a typical table using resident population data for 1989.

Table 2.1

Resident population by status category (000,000), 1989

Type of area	London	Non-London
Inner deprived	2.69	1.56
Urban	1.00	9.75
High-status	3.26	5.09
Total	6.95	16.39
England	47.69	

Source: Department of Health (1991a)

This table contains absolute values, so when a total is calculated it is simply an addition of the values in the columns above it. However, throughout this paper we frequently present values which are ratios. In such cases, to present a total figure which can be usefully compared we need to present a weighted total, which is calculated by adding the numerator and denominator values across the status groups; this gives an "average" which takes account of the relative significance of each status group.

Such an approach is perfectly adequate for providing summary values for London and non-London areas respectively. However, our primary interest in non-London values is as comparators for London, not as useful information in themselves. This creates a problem: since there are unequal numbers of districts in London and non-London within each status category, a comparison of the two weighted total figures, if they are calculated in the manner outlined above, will reflect the composition of their respective groups rather than a useful measure of the differences between London and elsewhere. In particular, the non-London figure will tend towards the value of its urban districts, since thirty-four of the sixty-one non-London districts fall into this category. By contrast, only four London districts out of twenty-nine are in the urban category.

To avoid this problem, throughout the paper we calculate weighted totals for non-London ratios on the basis of the relative weighting which obtains between the London districts. This is illustrated in Table 2.2.

Table 2.2

Available acute beds per 10,000 resident population by status category, 1989–90

Type of area	London	Non-London
Inner deprived	38.8	41.6
Urban	24.5	29.0
High-status	21.4	19.0
Weighted total	28.5	29.2
England	25.0	

Source: Department of Health (1991a)

Since the denominator value for the indicator in Table 2.2 is resident population, the figure of 29.2 for the weighted total of the non-London districts is calculated by adding the products of the proportion of the overall London population represented by the respective London status groups and the values for those groups in the non-London case:

$([2.69/6.95 \times 41.6] + [1.00/6.95 \times 29.0] + [3.26/6.95 \times 19.0]) = 29.2$

Calculating the figure in this way renders it somewhat meaningless as a summary figure for the non-London districts, but enables us to make a viable comparison between the London and non-London values.

the provision of health care in London. Common to all of them is the lack of a cohesive body able to take responsibility for the health care of Londoners. There has been no single authority whose role is to oversee the provision of health services in London.

As indicated in Chapter 1, the NHS is in the midst of sweeping changes. Nevertheless, for the moment, health care in London cuts across the boundaries of the four Regional Thames Health Authorities, responsible for an area of south-east England, covering some fourteen million people, of whom approximately seven million live in London. Within each region there are district health authorities responsible for areas of approximately a quarter of a million residents each. The region has traditionally played a more long-term strategic role with respect to the provision of health care within its area, while at the same time providing a pivotal role for the implementation and monitoring of central government policies – in effect, the region is the link between the Department of Health and the DHAs. The DHAs provide on-the-ground administration and are in turn a link to the hospital units within their geographic areas.

The London districts do not divide neatly between the four Regional Health Authorities: the bulk of inner deprived London is in North East Thames; most of South West Thames London districts are in the high-status group; and there is a spread of districts in North West Thames and South East Thames. So where we might expect strategic planning to take place – at the regional level – there is a hotchpotch of arrangements. Moreover, when account is taken of the shire districts, the regions have responsibility for another population the size of London again, with all of the potential sources of conflict which this is likely to bring.

The NHS reforms have established a clear distinction between the role of the DHAs as *purchasers* of health care for their resident populations and the role of hospitals as *providers* of this health care. For the moment, many hospital units remain under the control of their local DHA as *directly managed units* (DMUs), but do in fact have a high degree of independence. A number of hospitals have *opted out* of direct district control, becoming *trusts*; in 1992 this will become the rule rather than the exception. The effect of this is that DHAs have a clearer responsibility for the health care of their own residents, with no loyalty to any particular hospital or group of hospitals; hospital units, on the other hand, have to operate in an increasingly competitive market.

The main focus of this paper is on the dynamics of the provider side and its relationship to the acute health care needs of local residents. For this purpose, we organise the data in terms of aggregations of DHAs – the purchasers in the new NHS. Although this reflects the structure of health service provision in 1989–90 – the year on which most of our analysis is based – it could be argued that providers are gradually moving away from the responsibility for servicing a particular local population: for some this was never the case. Nevertheless, our comparative analysis necessitates the imposition of some structure on the potential provision of local services, and we would argue that the existing DHAs retain their relevance as the major geographic entities

around which the local provision of health care will be based.

In order to present a full picture of acute care in London, we would also need to consider two other major groups of health care providers in the capital: the Special Health Authorities (SHAs) and the independent sector.

The SHAs are all located within London. Nevertheless, we have chosen to consider them separately, for three reasons. Firstly, the hospitals which constitute the SHAs are administered completely separately from the other NHS hospitals – an SHA is directly responsible to the Department of Health. The resources used by the SHAs are not part of any regional allocations, and thus do not directly impact on regional planning processes.

Secondly, SHAs are regarded as centres of learning and research and, as such, the provision of patient care, though not an insubstantial element of the total care in the country – some 1.5 per cent of acute inpatient episodes in total – is only one of several joint products of these organisations.

Finally, although all of the SHAs are located within London and, more particularly, inner deprived London, they are not primarily providers of core services for the residents of London. In Appendix 3 we show that inner deprived London residents in fact use just one-third of the total acute care provided by SHAs.

In this appendix, in addition to indicating who is using their services, we also look briefly at the resources which are used by the SHAs. However, in the main body of our work, SHA figures are not included, except in Chapter 5 on hospital utilisation, where hospitalisation rates include episodes of care in SHAs, and flows of patients to SHAs are also shown.

We have also considered the independent sector separately, and then only very briefly. We feel that it is important to have a picture of the provision of acute services within the NHS alone. The size of the independent sector, particularly in London, makes it a factor which cannot be ignored, but it would seem wrong simply to add resource figures from the independent sector to NHS figures. For example, in what sense is an independent bed an available bed in NHS terms, since it is generally not free at the point of delivery?

More to the point, information is not readily available on the independent sector, except in very broad terms. Finally, we feel that the nature of acute work and the flow of patients may be quite different in the private sector. These three factors warrant a separate analysis of this sector of acute care, and one which we can only touch on briefly in this paper.

It is difficult to imagine a structure of health care provision such as we have outlined, providing a rational pattern of acute hospital services across London, even with a high degree of co-operation between the relevant bodies. The problem is increased substantially by the fact that London's services are essentially still provided on sites established within a historical context which is virtually unrecognisable in modern London.

The demography of London has been changing dramatically over

the last sixty years. In 1931 there were 8.1 million people resident in the capital. OPCS estimates indicate that this figure has reduced to 6.8 million in 1991; the effect of this is magnified by the movement of population from inner to outer London. Over the same period, the population of inner London will have been more than halved, from 4.9 million to 2.3 million, whereas that of outer London will have increased by nearly forty per cent, from 3.2 million to 4.4 million (LHPC, 1979). Such massive shifts in population represent a considerable task for planners, even if the appropriate administrative framework were in place.

The administrative structure also provides problems for the researcher, for there is little incentive for information to be made available in a compatible format for analysis on a London-wide basis. What we have seen is a series of attempts to stimulate the debate, by providing partial analyses of London or parts of London (LHPC, 1979; LHPC, 1981; King's Fund, 1987; Jarman, 1989; Akehurst *et al.*, 1991). The current work follows a tradition of research into the problems of London, but attempts to provide a systematic analysis of the overall London picture, set within the comparative national context which we have discussed previously.

Acute services

What is meant by acute hospital services? A dictionary definition of *acute* – in medical terms – is something coming quickly to a crisis point, as opposed to *chronic*. Taken literally, this would include only those services dealing with cases which might more often be categorised as emergencies; elective admissions – constituting a substantial part of what is commonly accepted as acute care – would not seem to meet this criterion. Perhaps it is a question of how quickly is "quickly"? Is a hip replacement an acute service?

It is fairly easy to become bogged down in the semantics of definition. Our preferred approach is to choose a commonly accepted definition of acute services and use this consistently throughout our work. We adopt a definition used extensively by the Department of Health, though we recognise that even this may be problematic: there are wide differences in the use of terminology within the health service.

Our definition of acute services, then, is essentially one of exclusion. By acute services, we mean all specialties, with the exception of the following Körner specialty groups: elderly services, psychiatric services and maternity services. Also excluded are the accident and emergency specialty, the GP medicine, anaesthetics, pathology and radiology specialties, and healthy babies from the paediatric specialty. The full list of specialties which we include in acute services, together with their Körner specialty codes, is given in Appendix 2.

Though somewhat arbitrary, especially in the case of maternity services – what could be more "acute" than having a baby, though some might argue that nine months is not "quickly" – this definition is used in much of the Department of Health's comparative work, and in particular in the Health Service Indicators data set, a source for much

of our analysis. The Department of Health's *Statistical Bulletin* (1990a) uses a similar definition, although the last set of specific exclusions is included in acute services.

So, essentially, we are categorising hospital services as either acute, geriatric, psychiatric or maternity, as defined in terms of Körner specialties. Looking, then, at national figures, acute services constitute approximately eighty per cent of the services provided by NHS hospitals.

Although we have adopted a commonly used definition of acute services it is still difficult to compare our work precisely with that which has gone before, since definitions frequently change. There is no widely accepted historical definitional precedent; however, our approach allows us at least a contemporary consistency.

In this chapter we have established a framework for analysing the provision of acute services in London. In the next chapter we provide a profile of the resources which are available to the NHS in London, and look at the implications for expenditure on health care.

CHAPTER 3

A profile of resources in London

There are three types of resource or input which are of primary importance in determining the supply of acute services in a particular area:

- the availability of beds for patient care – the stock of available beds;
- the availability of funds to enable treatment to take place – financial resources;
- the availability of staff to treat patients and service those who do treat them – human resources.

In this chapter we examine each of these in turn, looking at London's position relative to the rest of the country, particularly in terms of resources per capita resident population. We provide some broad comparisons with previous years in order to illustrate the trend in resource allocation over time.

Bed stocks

In our discussion of resources, and more generally throughout this paper, we use hospital beds as a kind of proxy variable indicating a limit to the stock of treatment available. This may not always be a suitable assumption. In particular, there are three areas where a more detailed examination of bed management policies would be revealing.

First, there is significant bed borrowing across specialties which is rarely reflected in the kind of national database which we use for our analysis. Thus, for example, at any one time there may be General Surgery episodes occupying beds which have been officially recorded as General Medicine beds. This would tend to give a false picture of the quantity of care available and the relative efficiency of bed usage in the two specialties. We circumvent this problem to a large extent by concentrating our analysis on the all acute specialties group. Nevertheless, this issue must be borne in mind when considering figures which are presented by individual specialty, particularly at the district level.

The second area is the interplay between bed stock and the availability of staff and financial resources to use this stock. The figures we present largely reflect the availability of beds which are open. Thus, if a district found it necessary to close a number of beds as a result, for example, of financial pressure, this would appear as a reduction in its available bed stock. It could be argued that effective usage of bed stock should not exclude beds which are closed in such circumstances. A

factory which shuts down a proportion of its production for a certain period must still meet the capital costs of its total plant.

The third area is the more general problem that as patterns of care shift away from the treatment of patients within a hospital inpatient environment to one of more ambulatory care – day cases, outpatients, treatment in the community – bed stock becomes increasingly less relevant as a measure of the stock of treatment. Clearly, these changing patterns of care have important implications for the analysis of acute resources. However, we would argue that the largest proportion of resources is still devoted to inpatient care, and that bed stock therefore retains considerable relevance.

Bed stocks are usually measured in terms of average available beds, which are obtained by taking total available bed-days in a year, and dividing by the total number of days in the year to provide an average figure. Since 1948, there has been a downward trend in the national bed stock. This reflects changes in patterns of infectious diseases, with debilitating illnesses such as tuberculosis having virtually disappeared; similar trends can be observed throughout the developed world.

In Table 3.1, we present a national time-series for 1950 to 1990. It is not possible to mirror this series for the London districts, as the information is not generally available at that level of detail. However, we can compare the trends over the last ten years, and this information is also presented in the table. The total acute bed stock in England in 1990 is less than half that of forty years ago; in terms of beds per capita

Table 3.1

Average available acute beds in NHS hospitals, 1950–90

	Inner London		Outer London		England	
	Actual beds ('000)	**Per 1000 population**	**Actual beds ('000)**	**Per 1000 population**	**Actual beds ('000)**	**Per 1000 population**
1950					271	6.6
1960					223	5.2
1971					149	3.2
1979					149	3.2
1981					145	3.1
1982	14.0	5.6	12.6	2.8	144	3.1
1983	13.9	5.6	12.3	2.7	142	3.0
1984	13.3	5.3	11.5	2.6	139	3.0
1985	12.6	4.8	11.2	2.5	136	2.9
1986	11.8	4.7	10.7	2.4	133	2.8
1987–88*	11.2	4.5	9.9	2.2	128	2.7
1988–89*	11.0	4.4	9.1	2.1	123	2.6
1989–90*	10.3	4.1	9.5	2.1	121	2.5

Sources: Ministry of Health (1952), Ministry of Health (1962), Department of Health and Social Security (1973, 1989), Department of Health (1990b)

*Note that, since the introduction of Körner returns in 1987–88, information is available in terms of the financial year rather than the calendar year, so the figures are not strictly comparable, year on year.

Box 3.1

SPECIALTY BED STOCK FIGURES

In Appendix 4, we present a set of tables giving the most recent figures available – 1989–90 – at detailed specialty and area levels. We have chosen to concentrate on seven specialties: general surgery, paediatrics, general medicine, trauma and orthopaedics (T&O), ear, nose and throat (ENT), ophthalmology and gynaecology, which together make up between eighty and ninety per cent of all acute specialty work.

Nationally they account for some ninety per cent of all acute episodes. General surgery and general medicine are the major specialties, accounting for approximately fifty per cent of the total between them; gynaecology and T&O would usually be next largest at around ten per cent each, followed by paediatrics at some eight per cent. ENT and ophthalmology are not provided in every district in the country, or even every district in London.

Table A4.1 gives actual bed availability figures by London district, organised according to the old inner/outer London breakdown. Table A4.2 gives availability in terms of resident population according to the same breakdown. In each case, the England figure is presented for comparative purposes.

In Table A4.3 we present bed availability per resident population organised according to our status categories. Again England figures are presented for comparative purposes.

population, the fall is from 6.6 to 2.5 beds per 1000, in other words, to just over one-third of the 1950 ratio. The rate of decrease was substantial in the 1950s and 1960s, stabilised during the 1970s and fell again substantially in the 1980s.

The picture in inner and outer London is also one of a substantial fall in bed stock. In 1982, while average bed stock per capita resident population was over eighty per cent higher in inner London than the national average figure, it was eight per cent less in outer London. Since then, bed stock has declined even more rapidly in London than in the rest of the country, even for the outer London districts. Thus the inner London figure is now just over sixty per cent higher than the national average, but outer London has become more out of line with the national picture and is now sixteen per cent below the national average. In effect there has been a blanket reduction across London.

In Appendix 4 we have looked at the current position in London in some detail. Box 3.1 provides a discussion of some of the tables which are presented in this Appendix, and in Table 3.2 we provide a summary of the information. For the all acute specialties group, there are nearly twice as many beds available per resident population in inner London as in outer London. The figures are particularly high for Bloomsbury Health Authority, but provision in inner London is still significantly higher when the Bloomsbury figures are not considered. The pattern is generally repeated at the individual specialty level.

Turning to a national comparison, the outer London acute figure is less than the England average by some fourteen per cent, whereas the inner London figure is some sixty-five per cent greater. Again, this pattern tends to repeat at an individual specialty level, though there are some exceptions – for example, the inner London figure for ophthalmology is close to the England average, whereas outer London is well below average.

In Table A4.3 of Appendix 4, the figures are displayed using the status groups calculated by our clustering technique. A clear "gradient" of available beds per resident population can be seen across the specialties without exception, from the deprived areas with relatively high provision to the high-status areas with relatively low provision. This is illustrated in Figure 3.1 for the all acute specialties group.

There are 28.5 beds per 10,000 London residents, which is fourteen per cent higher than the England average of 25.0. However, when the figure for each status category in London is compared with its non-London counterpart, the relationship is strikingly close. For the inner deprived and urban categories, provision in London is in fact lower than their non-London counterparts. In Appendix 4 the same information is examined at the more detailed specialty level. There are few exceptions to the general patterns which we have observed.

These findings are significant in the light of the frequent assertion that London is over-provided with acute beds. Our results suggest that there are no more beds in London than one would expect given the nature of London's health districts. It is the status dimension rather than London itself which is most closely associated with bed availability. In fact, if there is relative over-provision in London, it would seem to be

Table 3.2

Available NHS beds per 10,000 resident population by specialty, 1989–90

	Inner London	Outer London	England
General surgery	8.1	4.6	5.2
Paediatrics	4.5	3.2	3.5
General medicine	11.5	6.3	6.5
Trauma and orthopaedics	5.2	3.1	3.8
ENT	1.2	0.5	0.8
Ophthalmology	0.7	0.4	0.6
Gynaecology	2.3	1.4	1.7
All acute group	41.1	21.4	25.0

Source: Department of Health (1991a)

in the high-status outer areas (with 2.1 acute beds per 1000 population, compared with 1.9 outside London), rather than in the inner deprived London districts, where there are 3.9 beds per 1000 resident population, compared with 4.2 in deprived areas outside the capital.

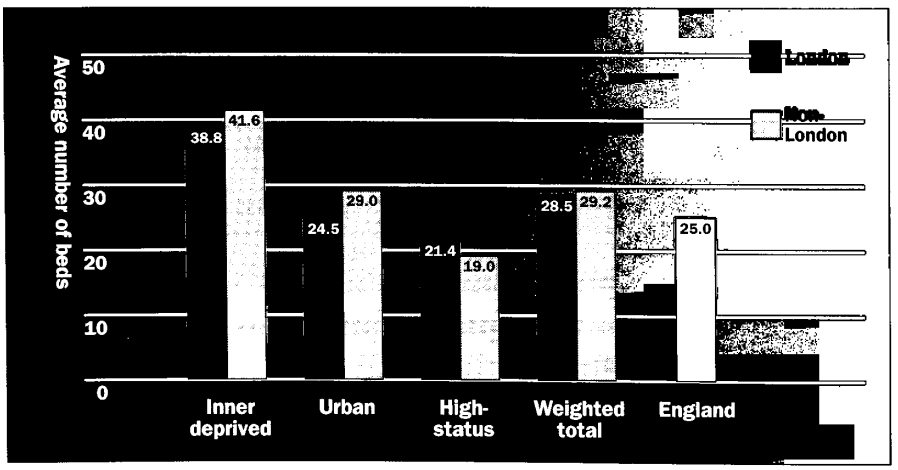
Earlier in the chapter we pointed out that the general reduction in bed levels across London in the 1980s has tended to make the outer London levels fall even further below the national average. What we are now seeing is that this reduction may not be so strange when examined in the context of a comparison with the experience of similar districts.

Indeed, there are more beds in London per head of resident population than the national average – for inner London to achieve the national average figure requires a reduction in beds of approximately 4000; outer London would need to acquire some 2000 extra beds. However, our figures suggest that London has no more beds than one would expect for the characteristics of the population residing there.

In Chapter 4 we shall examine how efficiently these resources are used, and in Chapter 5 we shall relate these figures to patient flows so as to establish who exactly is occupying these extra beds; we shall also

Figure 3.1

Available NHS beds per 10,000 resident population by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

compare hospitalisation rates across districts, and in particular between status categories.

Turning briefly to the independent sector, it has been estimated that there are approximately 11,000 acute beds in independent hospitals in England (IHA, 1991). Of these almost thirty per cent are in London, suggesting an even greater disparity of resources than that within the NHS. These bed stocks represent almost thirteen per cent of all acute available beds in London, and this figure would rise to eighteen per cent if NHS pay-beds were included in the independent sector figures. However, as we have already indicated, it is something of a false comparison, and we certainly should not consider these independent beds as part of the resources available generally in London.

Costs

We now turn to the cost of providing acute services in London hospitals. In Table 3.3 we compare the increase in total Hospital and Community Health Services (HCHS) revenue expenditure in London with that nationally, over the period 1983 to 1988 (CIPFA, 1990). We see that HCHS expenditure per capita in both inner and outer London has increased more slowly than that of England, by thirty per cent and thirty-three per cent respectively, compared with the national figure of thirty-six per cent. However, the average expenditure per head in inner London remains considerably higher than the national average. We now examine the breakdown of expenditure, by London health district, and set this within our comparative framework.

Table 3.3

HCHS revenue expenditure, 1983–88

	Inner London		Outer London		England	
	Total spend	**Per 1000 population**	**Total spend**	**Per 1000 population**	**Total spend**	**Per 1000 population**
	£(000,000)	£	£(000,000)	£	£(000,000)	£
1983	850	341	780	175	8,000	171
1984	900	360	810	182	8,460	180
1985	930	357	850	190	8,970	190
1986	960	382	890	199	9,430	200
1987	1,010	401	940	211	10,130	213
1988	1,110	445	1,030	232	11,070	233

Source: CIPFA (1990)

Table 3.4 summarises the breakdown of total revenue expenditure on HCHS given in Appendix 4. In Box 3.2 we describe in detail the relevant tables presented in this appendix. As Table 3.4 indicates, over £13 billion is spent nationally, of which approximately £2.6 billion is spent in London – excluding the SHAs; if these are added to the London total, then £2.9 billion is spent in London out of a national total of £13.4 billion. So approximately twenty per cent of the HCHS budget is spent in the London districts, an area containing approxi-

Table 3.4

HCHS revenue expenditure, (£000,000), 1989–90

Type	London	Non-London	England
Hospital	2,062	8,162	10,224
Community	304	1,314	1,618
Other	254	1,049	1,303
Total	2,620	10,525	13,146

Source: Department of Health (1991a)

mately fifteen per cent of the population of England.

An equalisation of expenditure patterns across the country, so that there is the same spend per head of resident population in each district, would result in a reduction in HCHS expenditure in London of £650 million, to a level of around £2 billion. This is the equivalent of the revenue budgets of the five inner London districts of Lewisham and North Southwark, Bloomsbury, Parkside, Riverside and Wandsworth.

The average spend on HCHS in England is £275 per head, but using the traditional inner and outer London distinction, we have a figure of £578 for inner London and £264 for outer London. However, in Table 3.5, we consider the groupings by status category, essentially comparing like with like. We find that, in the urban and high-status areas, there is a close correspondence between London and non-London expenditures, but in the inner deprived areas, London districts still spend some twenty-seven per cent more than their Liverpool or Birmingham counterparts.

A further breakdown of expenditure is given in Table 3.5. Looking at acute services (both inpatients and outpatients), the national average spend is £121 per capita. The figure for inner deprived London is some sixteen per cent higher than that of non-London inner deprived areas. However, urban London areas spend slightly less than their non-London counterparts – £126, compared with £137 – a figure quite close to the national average; high-status London areas spend more than their non-London counterparts, but still fifteen per cent less than the national average. Overall, London districts spend just fourteen per cent more than their counterparts in the rest of the country.

Similar trends can be observed throughout the hospital side of HCHS expenditure, with the notable exception of mental health expenditure, where there would appear to be a concentration of resources in the inner deprived and urban London areas. In Box 3.3 we discuss briefly the community side of the HCHS budget, which is also presented in some detail in Appendix 4.

The overall financial picture is interesting in that it reveals some broad similarities in spending patterns between London and non-London districts of similar status. Where there are differences, it is necessary to consider in more detail what may be causing them. Do they reflect a greater provision of services, are they due to input costs being considerably higher in London, or do they reflect a less efficient use of resources? We have presented a profile of London which relates expenditure purely to resident population. This may be the important

Box 3.2

PROGRAMME BUDGET FIGURES

In Appendix 4 we present a set of tables giving the most recent figures available – 1989–90 – at detailed programme budget level for our various geographical entities. Thus Table A4.4 gives a breakdown of total revenue expenditure, by London districts, in three parts – by expenditure on hospital services, on community health services and on other services. Table A4.5 presents the same information in terms of spend per head of resident population.

Total revenue expenditure is the sum of all current expenditure on the provision of care by the HCHS; capital expenditures are not included for these purposes. It is broken down into its hospital, community and other components. Table A4.6 provides a more detailed breakdown of these expenditures at the programme budget level for the status groups which we have defined; Table A4.7 provides the same information on a per capita basis.

Table 3.5

HCHS Revenue expenditure per capita resident population, 1989–90

Type of area	Total HCHS	Acute services
	£	£
INNER DEPRIVED		
London	549	284
Non-London	431	244
URBAN		
London	299	126
Non-London	287	137
HIGH-STATUS		
London	259	103
Non-London	238	88
WEIGHTED TOTAL		
London	372	174
Non-London	316	153
ENGLAND	275	121

Source: Department of Health (1991a)

paradigm for future considerations of resource allocation, but for the present these figures need to be set against the current users of London's health care system. Each of these issues is addressed in more detail in the subsequent chapters of this paper.

The next section examines a major constituent of health care costs – staffing – and provides a similar profile for London.

Human resources

Expenditure on staff is the major component of health service revenue expenditure – nationally it amounts to seventy-two per cent. So it is clearly of prime importance in considering the cost structure of health care provision in London relative to the rest of the country.

In Box 3.4 we describe in more detail the tables in Appendix 4

Box 3.3

THE COMMUNITY SIDE OF HCHS

Again referring to Appendix 4, we see that the community side of the budget is not broken down as finely and, in particular, it has not been possible to allocate general services expenditure between the various programme budgets. However, some similar patterns emerge.

Inner deprived London areas spend nearly twice the national average of £34 per capita resident population and some forty per cent more than their non-London counterparts. Urban London spends seventeen per cent more than equivalent non-London districts, and high- status areas throughout the country are close to the national average.

For some programmes, the spend in London is close to or less than the non-London equivalent districts. A good example is community midwifery, where London spends less than the non-London equivalent districts in each status category.

Box 3.4

THE USE OF HUMAN RESOURCES IN THE NHS

In Appendix 4, we present a set of tables giving the most recent figures available – 1989–90 – on staffing levels in the NHS, by nine staff groups – medical and dental; nursing and midwifery; administrative and clerical; ancillary; professions allied to medicine; scientific and professional; professional and technical; works; building and maintenance.

Table A4.8 presents WTE staff numbers for the various staff groups, by our previously defined status groups, and the national figure for comparative purposes. Table A4.9 relates these figures to resident population, so as to provide staffing levels per head of resident population. Tables A4.10 and A4.11 provide information on expenditure, by staff group, again in absolute terms and per head of resident population.

In Tables A4.12 and A4.13 we present relative staffing levels, by staff group, in WTE and expenditure terms.

showing the use of human resources, by staff group, within the NHS. Here we examine expenditure on the different staff groups, using our comparative framework. Table 3.6 compares expenditure, by staff group, in terms of resident population. The inner deprived areas, as a whole, spend twice the national average on doctors and dentists, sixty per cent more on nurses and midwives and over twice as much on administrative and clerical staff. For presentational purposes, all of the other staff groups have been combined to form the "Other" category. Total staff expenditure per resident population is around eighty per cent higher than the national average.

In each case, London has a greater spend than the equivalent non-London districts – this is true to a lesser extent for the high-status and urban categories. Overall, London spends thirty per cent more than the weighted average of its non-London equivalents; in the case of direct care staff, this falls to approximately twenty per cent more.

There are two factors at work here:

- higher staffing levels in London;
- more expensive staff costs.

Clearly, on the basis of the considerably higher staffing inputs illustrated in Box 3.5, we would expect the higher costs observed for inner London districts. Again we find confirmation that it is in the medical and dental group that the most significant differences occur, when comparing London with non-London districts, in the inner deprived case. Urban staffing levels tend to be lower in London than outside, mirroring the usage of bed resources which we saw earlier; high-status levels are marginally lower within London than outside, though for the medical and dental group they are some eighteen per cent higher.

Turning to the second factor, we must also consider the relative cost of staff. In Table 3.7 we present the cost per whole-time equivalent (WTE) staff, for the various staff groups, and a total figure which is the cost based on the staff-mix employed within each area defined. An alternative formulation would be to calculate a total figure based on the national average staff-mix, though there is then an implicit assumption that this is in some way the correct staff-mix for all districts.

Staff groups generally reflect the typically higher costs of employing staff in London. Thus, the cost per WTE staff in inner deprived London is seventeen per cent higher for nurses and midwives, thirty-seven per cent higher for administrative and clerical staff and twenty-two per cent higher for the "other" staff group, than the national average. Taking an aggregate cost of WTE staff, we find that the average wage cost in inner deprived London is nineteen per cent higher than the national average.

But this contrasts sharply with the picture which the medical and dental group presents. The WTE expenditure in inner deprived London is equal to the national average, and in fact lower than that in urban or high-status London areas, which respectively are just five and seven per cent greater than the national figure. This is because there is no distinction, when looking at WTEs, between grades of staff employed. In fact, there tends to be a higher ratio of non-consultant

Table 3.6

Expenditure, by staff group, per capita resident population, 1989–90

Type of area	Medical and dental	Nursing and midwifery	Admin. and clerical	Other	Total
	£	£	£	£	
INNER DEPRIVED					
London	69	179	56	94	397
Non-London	57	145	31	74	306
URBAN					
London	34	119	24	45	223
Non-London	34	107	20	48	208
HIGH-STATUS					
London	29	102	20	37	190
Non-London	25	95	17	38	175
WEIGHTED TOTAL					
London	45	134	35	60	274
Non-London	39	116	23	53	231
ENGLAND	31	104	20	46	199

Source: Department of Health (1991a)

Table 3.7

Cost per WTE staff by staff group, 1989–90

Type of area	Medical and dental	Nursing and midwifery	Admin. and clerical	Other	Total
	£	£	£	£	£
INNER DEPRIVED					
London	34,400	14,600	13,400	13,400	15,600
Non-London	33,000	12,100	9,100	12,100	13,200
URBAN					
London	37,000	14,000	10,100	13,100	14,600
Non-London	33,400	11,900	9,200	10,200	12,400
HIGH-STATUS					
London	36,300	13,600	10,400	13,000	14,400
Non-London	34,000	12,700	9,400	11,300	13,100
WEIGHTED TOTAL					
London	35,200	14,200	12,100	13,200	15,100
Non-London	33,300	12,300	9,200	11,600	13,100
ENGLAND	34,500	12,500	9,800	11,000	13,000

Source: Department of Health (1991a)

Box 3.5

HOW STAFF LEVELS RELATE TO POPULATION

Table A4.9 in Appendix 4 indicates that inner deprived areas have overall staffing levels, per head of resident population, some sixty per cent higher than the national average; inner deprived London is nine per cent higher than non-London, but urban London employs nearly nine per cent less than the equivalent non-London districts; high-status areas are at approximately the same level, well below the national average. In the inner deprived areas, there is one health service employee for every forty residents; nationally the figure is one for every sixty-five residents.

At a more detailed level, we find that the level of nursing care in London is roughly the same as that in equivalent non-London areas, but there are considerably more doctors and dentists – seventeen per cent in inner deprived areas – and administrative and clerical staff – twenty-two per cent more.

In inner deprived London there is one doctor or dentist for every 500 residents; the equivalent figure for non-London inner deprived districts is one to 580 residents, and for England, one to every 1100 residents. Urban London districts tend to employ less than their non-London equivalents and, overall, just under the national average. The high-status London areas employ considerably less than the national average, though close to the levels in other high-status areas.

medical staff to consultants than elsewhere, and this tends to outweigh the higher wage costs usually associated with London.

Looking at the all acute specialties group, we find that thirty-one per cent of medical and dental staff are consultants nationally, compared with twenty-eight per cent in the inner deprived London areas and thirty per cent in the non-London case. If London had the same consultant/non-consultant mix as the national average, there would be nearly 100 more

Box 3.6

CALCULATING THE EXPENDITURE DIFFERENTIAL

The following simple calculation allows us to divide the difference in relative expenditure on staff into its component parts. In fact, in this case the percentage change due to each component is more or less equal to the actual percentage change in each component, because the overall change in total expenditure is almost 100 per cent.

If we think of total spend, R, as just price (P) times quantity (Q) – (population is not relevant as both quantity and spend are per head of resident population) – then we can express the change in total spend, ΔR, in the following way:

$$\Delta R = \underbrace{\Delta P.Q}_{\text{the price effect}} + \underbrace{\Delta Q.P}_{\text{the quantity effect}} + \underbrace{\Delta P.\Delta Q}_{\text{the combined price/quantity effect}}$$

Expressing this in percentages we obtain:

$$\frac{\Delta R}{R} = \frac{\Delta P.Q}{P.Q} + \frac{\Delta Q.P}{P.Q} + \frac{\Delta Q.\Delta P}{P.Q}$$

$$= \frac{\Delta P}{P} + \frac{\Delta Q}{Q} + \left(\frac{\Delta P}{P}\right).\left(\frac{\Delta Q}{Q}\right)$$

$$\text{So, } \%\Delta R = \%\Delta P + \%\Delta Q + (\%\Delta P).(\%\Delta Q)$$

In the case in the text we have

99% = 65% + 20% + 13%

(this will not sum exactly because of rounding)

or 100% = 67% + 20% + 13%

when we set it in terms of a contribution to the overall change.

WTE acute consultants employed in the inner London deprived areas. In both urban and high-status London areas, the mix of consultants to non-consultants is less than the national average.

We now examine the difference in relative expenditure on staff, from the HCHS budget, in terms of its price and quantity elements, and thereby determine which is the most significant factor. Thus inner deprived London spends £397 per capita resident on NHS staff of all kinds, employs 2540 WTEs per 100,000 residents, and has an average cost per WTE staff of £15,600; for England as a whole the equivalent figures are £199, 1540 and £13,000: so inner deprived London spends ninety-nine per cent more than the national average and employs sixty-five per cent more at an average cost some twenty per cent more.

A simple calculation, explained in Box 3.6, allows us to express this in terms of the three components of the expenditure differential: quantity – the higher staff levels account for sixty-seven per cent of the difference; price – the higher relative cost accounts for twenty per cent; and a combined price/quantity effect – the extra staff at a higher cost accounts for thirteen per cent. So we see very clearly that it is staff levels which are the major contributor to the higher staff spend associated with inner deprived London. A mark-up for London wage costs of something in the order of twenty per cent is confirmed by other sources. Thus the Local Government Rates Support Grant settlement has recently embodied twenty per cent as the required increase for London wage costs, to cover both London weighting and the supply shortages engendered by market conditions. In the next chapter we shall see how these staff levels relate to activity levels in London. Are they being used efficiently?

There are some quite significant differences in the mix of staff groups used in London relative to the national picture. These are presented in some detail, for 1989–90, in Tables A4.12 and A4.13 of Appendix 4. In Table 3.8 we summarise the main results in terms of expenditure, in our usual way. Nursing and midwifery is the major element – nationally it accounts for fifty-two per cent of staff expenditure, though this figure varies from forty-two per cent for SHAs to fifty-five per cent for non-London high-status areas. The other major expenditure areas are medical and dental spending, which ranges from fourteen to twenty-two per cent of total staff expenditure, and administrative and clerical expenditure, which ranges from nine to fourteen per cent.

The inner deprived areas appear to concentrate more resources on medical and dental staff, with, in fact, non-London districts spending a higher percentage than London districts. London spends a particularly high proportion on administrative and clerical staff – fourteen per cent, compared with an average figure of ten per cent nationally – perhaps reflecting the special labour market conditions in London, where competition for basic office staff was quite fierce in the late 1980s (Seccombe and Buchan, 1992). This would appear to be at the expense of nursing and midwifery staff, where the inner deprived London figure is forty-five per cent relative to the national average of fifty-two per cent.

Looked at in terms of WTE staff numbers, inner deprived areas

Table 3.8

Relative expenditure by staff group, 1989–90

Type of area	Medical and dental	Nursing and midwifery	Administrative and clerical	Other
	%	%	%	%
INNER DEPRIVED				
London	17.4	45.0	14.0	23.6
Non-London	18.5	47.3	10.1	24.1
URBAN				
London	15.5	53.4	10.7	20.4
Non-London	16.4	51.2	9.5	22.9
HIGH-STATUS				
London	15.1	53.5	10.3	21.1
Non-London	14.3	54.5	9.5	21.7
WEIGHTED TOTAL				
London	16.4	48.7	12.4	22.5
Non-London	17.2	50.5	9.7	22.6
ENGLAND	15.6	52.0	10.0	22.4

Source: Department of Health (1991a)

in general have fewer nurses as a percentage of total staff employed than average – 49.5 per cent compared with fifty-four per cent – and London in particular has fewer than the non-London areas, at 48.3 per cent compared with 51.8 per cent.

This would suggest different patterns of care in these inner deprived areas, with perhaps less use of nursing staff in case management, thereby resulting in a relatively expensive care package. It may be that doctors are having to use their time inappropriately. What we cannot say from our analysis is whether this is a conscious management decision or due to adverse market conditions in London resulting in a shortage of appropriately qualified nurses.

So we have seen evidence that suggests higher expenditures on staff in inner deprived London are primarily caused by the higher staffing levels associated with greater service provision, and not by higher-cost staff. There is also evidence that patterns of care reflect a more heavy usage of doctors than elsewhere.

This chapter has presented information purely in terms of resources per capita resident population. We have seen that London overall has higher resource use than the simple national average. This is particularly true of inner deprived London. However, when resource use in London is related to what we have identified as comparable areas throughout the country, London does not seem particularly out of kilter with them. In the next chapter we examine how efficiently health care resources are used in London, before coming back to the issue of who uses resources in London.

CHAPTER 4

The efficient use of resources

In this chapter, we compare measures of efficiency in the provision of acute services across districts within London, and within the comparative framework which we have established. Clearly, the absolute level of resources used will be affected by the efficiency of their use, whether in terms of bed stock, staff or finances. In the previous chapter we saw that costs per capita resident population are generally higher in London, but to what extent is this accentuated by the patterns of service provision in London?

We attempt to shed light on this question by considering broad measures of efficiency under the following headings:

- activity;
- staff;
- costs.

First, we examine hospital activity by considering a measure of bed usage known as throughput, and looking at the set of factors which affect it. We concentrate on inpatient and day case episodes, as these constitute the major cost element in acute patient care, and, moreover, there is detailed information available through the hospital administration systems. We then look at the relative efficiency of staff in terms of numbers of cases treated per WTE staff, across several staff groups. Finally we turn to the cost of care and present figures on cost per case. In this instance we have detailed figures at the hospital level which can bring out the distinction between teaching and non-teaching hospitals within London.

We are aware that, even within the framework we have adopted, some of the measures under consideration are ambiguous in their interpretation as pure measures of efficiency. For example, the fact that the average length of stay, in a given specialty for a particular district, is higher than the national average may reflect the type of cases being treated rather than any inherent weakness or inefficiency. A high throughput may allow more patients to pass through a hospital bed, but this needs to be balanced against the problems which could ensue from premature discharge.

However, our primary purpose is to consider these measures in terms of the comparative framework, and in doing so it is the relative performance of areas of similar character which is the main focus, rather than simply the absolute values of the measures under consideration.

As in the previous chapter, we illustrate our substantive findings with a series of tables and figures, generally at the level of the all acute

specialties group. Appendix 5 contains more detailed statistical information across the range of measures which we consider in the text.

Activity measures

In this section, we examine the relative efficiency of activity in London hospitals in terms of the number of patients passing through a hospital bed annually. In essence, this equates to a measure known as throughput. There are a number of factors affecting throughput both directly, such as length of stay, turnover interval and proportion of day cases, and indirectly, such as case-mix and the effect of teaching hospital status. We consider the impact of both types of factor in turn. It should be borne in mind, however, that each is only a partial indicator of the effective management of patient care.

Throughput

We define throughput as the number of finished consultant episodes of care per available bed per year. This includes both inpatients and day cases. Throughput depends upon the length of time each patient occupies a bed during a single consultant episode, generally expressed in terms of a measure known as average length of stay, and upon the interval between episodes during which the bed remains empty, expressed in terms of another measure called turnover interval. In fact, there is an inverse relationship between throughput and these other two measures. It can be expressed mathematically as follows:

$$\textit{Annual throughput} = \frac{365}{\textit{Average length of stay} + \textit{Turnover interval}}$$

This expression helps to identify the relative impact of various factors on levels of activity in London, and we shall be returning to it later in the chapter. First, however, we consider throughput values for London and its comparator districts in 1989–90. Clearly, these will vary from specialty to specialty, and it is difficult to standardise for type of case. Nevertheless, they provide an interesting overall measure of the effective usage of beds.

In Table 4.1, we present information on throughput for the seven most common acute specialties, and also for the all acute specialities

Table 4.1

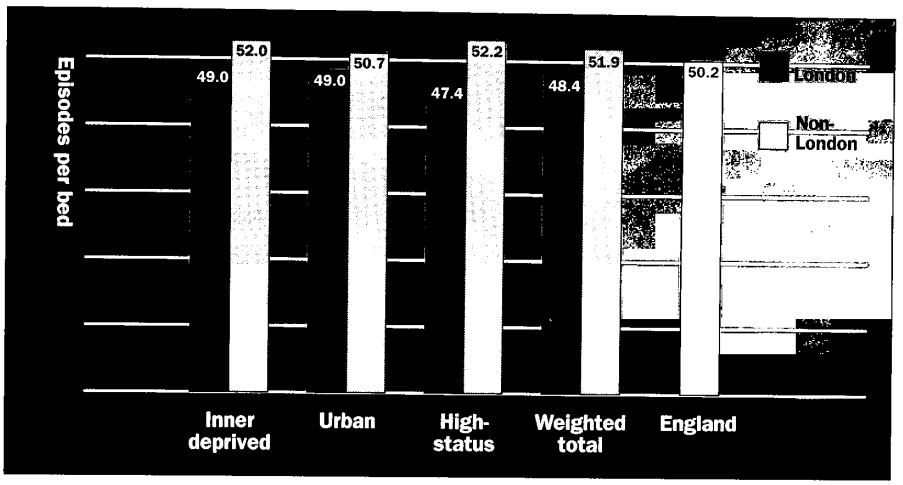
Annual throughput by acute specialty, (episodes per bed), 1989–90

	Inner London	Outer London	England
General surgery	56.8	59.6	62.5
Paediatrics	29.8	27.2	28.6
General medicine	46.5	39.3	45.1
T&O	31.1	33.1	35.9
ENT	96.5	85.9	92.5
Ophthalmology	71.0	71.8	65.5
Gynaecology	105.5	104.2	90.8
All acute group	48.4	48.5	50.2

Source: Department of Health (1991a)

Figure 4.1

Annual throughput by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

group. The table is presented in terms of inner and outer London, with the national figure for comparison. For the all acute specialties group, throughput in the inner London districts is some 3.6 per cent less than the national average, and for outer London districts some 3.4 per cent.

In Figure 4.1 we present information on throughput for the all acute specialties group, organised by status category. There does not appear to be any significant difference across groups, though once again we find the London districts performing slightly less well than their non-London equivalents.

What would be the implications for required bed stock if London districts had the same average throughput as the national figure? We need to look at the national average excluding London, which is 50.5 for the all acute specialties group. For inner London, there are 10,305 beds used at a throughput of 48.4; the equivalent number of episodes could be treated using 9876 beds if the throughput were 50.5, a reduction of 429 beds. In the case of outer London, there are 9532 beds used at a throughput of 48.5, giving a possible reduction of just 378 beds if the rate were brought up to the national average.

So, if it were felt that London hospitals should be capable of putting patients through the system at the same rate as occurs nationally, then we have established a limit to the potential effect on required bed numbers. This takes no account of the factors which may underlie the differential in throughputs which we have observed; these are considered later in the chapter. But the illustration does give a feel for the possible cuts in resources which could take place – London-wide the reduction would be approximately 800 beds, equivalent to one of the larger London hospitals. We would stress that this illustration is not intended as a policy recommendation. In fact, even if a throughput rate approximating to the national figure were felt desirable for London, bed numbers in the capital would suffer a reduction of just four per cent.

Average length of stay

We now examine in more detail those factors underlying the differential in rates of throughput which were outlined above. Average length

of stay – sometimes now called average length of finished consultant episode – is another commonly used measure of hospital activity which in some crude sense measures the efficient use of resources. Clearly, optimal length of stay is very much an individual case-dependent concept, but it is still reasonable to look at averages as an indicator of different patient treatment patterns; there may be various local explanations for differences which arise.

Table 4.2

Average length of stay by acute specialty (days), 1989–90

	Inner London	Outer London	England
General surgery	5.4	4.8	4.4
Paediatrics	4.1	3.1	3.2
General medicine	7.1	7.7	6.8
T&O	10.2	9.3	8.0
ENT	3.1	2.6	2.4
Ophthalmology	3.7	3.1	3.1
Gynaecology	2.5	2.5	2.5
All acute group	5.9	5.3	5.0

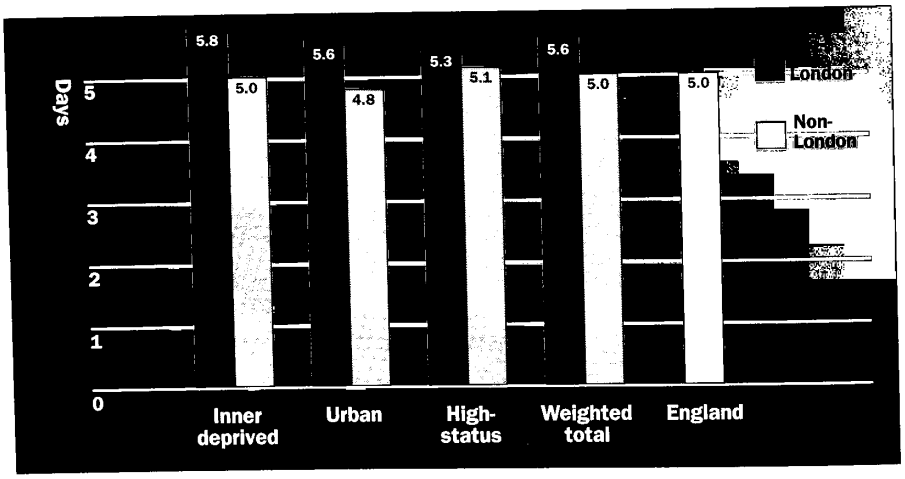
Source: Department of Health (1991a)

Average length of stay is defined as the average duration, in days, of a finished consultant episode – that is, the number of days a patient occupies a bed, on average. In Table 4.2, we present information in terms of inner and outer London with the national figures for comparison. For the all acute specialties group, inner London districts have an average length of stay some eighteen per cent higher than the national average, and outer London districts just six per cent. The London districts range in value from 4.5 days in Merton and Sutton to 7.1 days in Hampstead, with considerable variation in both inner and outer London.

At the more detailed specialty level, the London districts still tend to have greater lengths of stay on average than the national figures. In Figure 4.2 we present information on average lengths of stay for the all acute specialties group, organised by status category.

Figure 4.2

Average length of stay by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

As may be expected, the London districts are once again typified by greater lengths of stay than their comparator districts elsewhere, across all the status categories. Overall, average length of stay in London is about twelve per cent greater than in the comparator districts. Most strikingly, average length of stay in inner deprived London is sixteen per cent greater than in inner deprived districts outside London; the figure for the latter approximates very closely to the national average.

Before considering the possible reasons behind the greater lengths of stay in London – particularly inner deprived London – we investigate the other factor determining throughput, that of turnover interval.

Turnover interval

Turnover interval is defined as the average number of days a bed is empty between the end of one episode of care and the start of another. It would seem to be less dependent on complexity of case than a measure such as length of stay. Clearly there must be physical limits to just how quickly a hospital bed can be filled, but a wide range of variation between districts may be a good indicator of relative efficiency. The immediacy of demands for beds may also have a role in determining turnover interval – if there is no patient requiring the bed then it may remain empty for some time – but even this is a reflection of the bed management policies of the particular hospital, and so can be related to efficiency considerations.

Table 4.3

Turnover interval by acute specialty (days), 1989–90

	Inner London	Outer London	England
General surgery	1.0	1.0	1.3
Paediatrics	3.1	5.0	5.8
General medicine	0.7	1.1	1.4
T&O	1.6	1.6	2.2
ENT	0.6	1.6	1.5
Ophthalmology	1.5	1.3	2.3
Gynaecology	0.9	0.8	1.3
All acute group	1.2	1.5	1.9

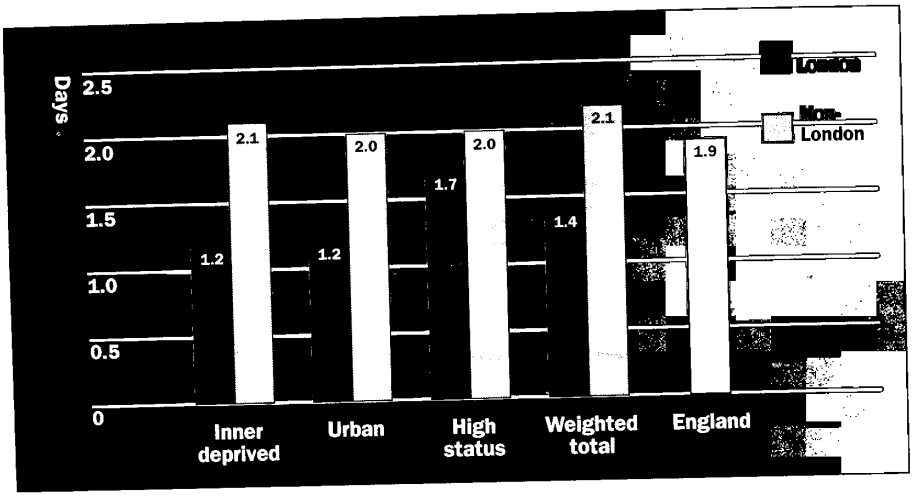
Source: Department of Health (1991a)

In Table 4.3 we present data on turnover interval in inner and outer London for the familiar acute specialties, with the national figures for comparison. It can be seen that, in general, turnover intervals are smaller in inner London than in outer London; the intervals in outer London are in turn smaller than the national figure.

Figure 4.3 displays values for turnover interval by status category for the all acute specialties group. We see that for each status category London districts have a smaller turnover interval than the equivalent districts elsewhere, and this is reflected in the overall London figure. This observed differential between turnover intervals in London and elsewhere will tend to counteract longer lengths of stay. In London as a whole, beds remain unoccupied between episodes for shorter periods than in similar areas outside the capital.

Figure 4.3

Turnover interval by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

Factors underlying patterns of activity in London

We now have a good deal of information which illuminates the activity equation given earlier in this chapter. It was seen that there is an inverse relationship between throughput on the one hand and average length of stay and turnover interval on the other. The data outlined above indicate that it is average length of stay which is causing throughput in London to be less than that observed elsewhere. It should be noted that there is not always strict comparability between the episodes used to calculate turnover interval and length of stay, as data were not always available in the appropriate form for all districts. We know that the value for average length of stay can be of the order of five times greater than that for turnover interval. Thus, a given proportional decrease in turnover interval would have a much smaller effect on throughput than the same decrease in length of stay.

Greater average length of stay in London is therefore the most significant factor underlying the differential in throughput. What, then, are the causes of this disparity? It may be that London simply uses its resources less efficiently than elsewhere. Alternatively, there may be special circumstances prevailing in London which help account for greater lengths of stay. Here, we consider five such possibilities:

- proportion of day cases;
- teaching hospital effects;
- case-mix differences;
- availability of community-based care;
- social complexity of cases.

The first possibility is the relative proportion of day case activity. In recent years there has been a marked shift towards the treatment of patients on a day case basis, with the aim of cutting the costs of providing services and at the same time being more convenient for the patient (Audit Commission, 1990). The proportion of treatment

carried out on a day case basis is therefore often looked upon as a good indicator of efficiency.

Moreover, a greater relative proportion of day case activity will inevitably reduce average length of stay, other factors being constant, if it replaces inpatient treatment. Eventually, the average length of stay of inpatient cases – as distinct from all acute episodes – will rise as the less complex cases are carried out as day surgery. Once again, however, caution in interpretation is necessary since day surgery is not always the most appropriate form of treatment.

Table 4.4

Percentage of acute episodes which were day cases, by specialty, 1989–90

	Inner London	Outer London	England
General surgery	20	28	23
Paediatrics	2	1	3
General medicine	20	16	15
T&O	9	15	15
ENT	9	12	16
Ophthalmology	13	20	19
Gynaecology	28	29	24
All acute group	18	21	18

Source: Department of Health (1991a)

Table 4.4 displays figures for the percentage of all consultant episodes which were day cases in 1989–90, in inner and outer London, with the England figure for comparison.

There is no consistent pattern across the specialties, although in general the inner London figure is slightly below the national average and the outer London figure slightly above it. At a more detailed level, there is considerable variation between authorities. In inner London, the figure for the all acute specialties group varies between seven per cent in Bloomsbury and twenty-three per cent in Parkside. The inner London figures may reflect a greater overall complexity of cases presenting there. However, the wide variation between similar authorities suggests a difference in policy at the local level, and this may well warrant further study.

In Table A5.8 of Appendix 5, the day case percentage figures are presented by status category. Although high-status areas tend to have a greater percentage of day cases than elsewhere, the differences between categories, and between London and elsewhere, do not seem significant. Nevertheless, in certain authorities with very low proportions of day cases, an adjustment of policy could result in significant economies.

Overall, differential implementation of day case treatment in London would not appear to be a significant factor in efficiency considerations, and would certainly not explain the disparities we have observed in average length of stay values. Indeed, if we consider values for throughput and average length of stay in which day case activity has been excluded, we find that the patterns we observed across the status groups are not significantly affected.

The second possibility – teaching hospital effects – stems from the contention that average lengths of stay in London are not due to any special feature of London itself. Rather they may be due to the fact that London's hospitals are predominantly teaching hospitals, and therefore have different patterns of care than would be found elsewhere. Thus it could be argued either that doctors in teaching hospitals operate with different thresholds of admission and discharge, or that patients in these hospitals tend to be kept in longer than may be justifiable on purely clinical grounds.

We return to some of the broader policy implications of this in Chapter 6. Here we simply examine some of the available evidence which may inform this contention. First, it should be recognised that whilst average lengths of stay are greater in London for *all* status groups than their relevant comparators, teaching hospitals in London are confined solely to the inner deprived districts. Nevertheless, teaching hospital effects may go some way to explaining the relatively high average length of stay figure in inner deprived London.

Table 4.5

Average length of stay by status category and teaching district, all acute specialties group, 1989–90

Source: Department of Health (1991a)

	Inner deprived		Urban	
	London	**Non-London**	**London**	**Non-London**
Teaching	5.9	4.8	-	5.1
Non-teaching	4.9	5.2	5.6	4.7

Table 4.5 displays average length of stay figures for the inner deprived and urban status groups, sub-divided according to whether the constituent districts are teaching districts; high-status areas are excluded from this analysis since only one teaching district nationally is also a high-status area. To proceed in this way is perhaps a somewhat crude measure for the effect of teaching hospitals. Hospital level data are not available, so the results are aggregates of all the hospitals in each district, thus potentially conflating teaching hospitals with non-teaching hospitals in the same district. Moreover, there are relatively few teaching districts outside London in each of the status categories, and only three non-teaching districts in inner deprived London. Some of the aggregates, therefore, are based on a rather small sample. Nevertheless, some interesting points emerge.

Inner deprived London teaching districts have a considerably greater average length of stay figure overall than that for the three non-teaching inner deprived districts of Islington, Haringey and Newham. At 5.9 days, average length of stay is over twenty per cent greater than in the non-teaching districts. The same relation can be seen for the non-London urban districts, but the effect is not as marked. There, teaching districts overall have an average length of stay only about nine per cent more than the corresponding figure for non-teaching districts.

Rather surprisingly, perhaps, the situation is reversed for the inner deprived non-London districts, where teaching districts overall have an average length of stay about eight per cent *less* than the non-teaching districts. No comparison is possible for the urban London districts.

The evidence, then, is rather ambiguous. However, it does seem that greater average lengths of stay may correlate with teaching district status, particularly in the inner deprived London districts. We cannot infer causality from this correlation, but these figures lend some support to the speculations about admission and discharge patterns which were outlined above.

The third possibility is that of case-mix differences – the idea that some hospitals or districts may, on average, treat more complex types of case, and that this results in greater average lengths of stay. Clearly, case-mix complexity may be another feature of the predominance of teaching hospitals in the inner deprived London districts, where average length of stay shows the greatest disparity from patterns elsewhere. We can nevertheless examine its relevance by considering length of stay data which has been standardised for case-mix. The method of standardisation is explained in Box 4.1.

Box 4.1

STANDARDISED AVERAGE LENGTHS OF STAY

Mersey Regional Health Authority calculates standardised lengths of stay for the Department of Health, for the usual set of specialties. The expected number of days' duration of completed consultant episodes in a district is calculated as follows.

An England average length of stay is calculated separately for a set of case-mix groups defined by combinations of age, sex, diagnosis and specialty. The age groups used are: 0–4, 5–15, 16–24, 25–34, 35–44, 45–54, 55–64, 65–74, 75–84, 85+. Diagnosis is categorised according to a list used in the past by the OPCS and the Department of Health, for HIPE main tables.

A district's expected length of stay for a specialty is then calculated by applying the England age/sex/diagnosis specific length to the actual numbers of completed episodes in each case-mix group, and then aggregating the results according to the age-group required.

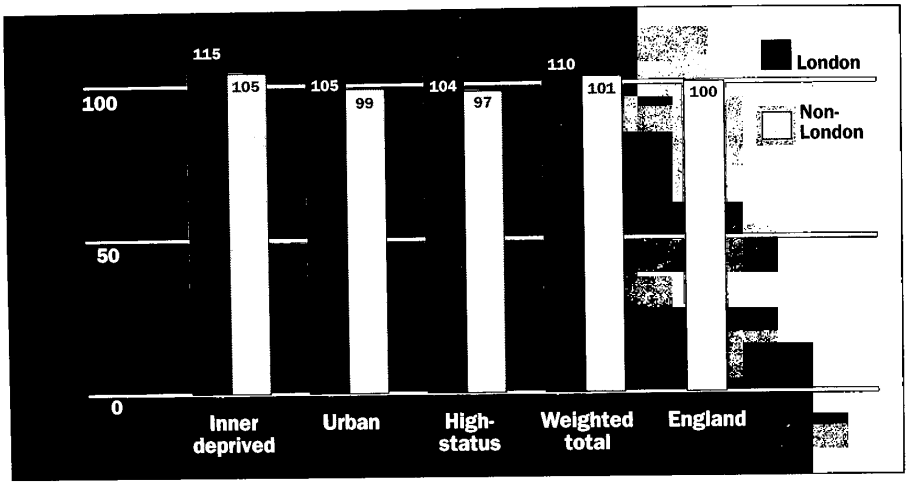
Standardised average lengths of stay are then calculated by dividing actual length by the expected length as calculated above.

In this way an attempt is made to calculate the effect of case-mix on length of stay. The standardised rates indicate how a particular district compares with the national average, in terms of length of stay, when some account is taken of different case-mixes. As our comparative data have shown throughout this paper, however, comparisons with a bald national average figure are not always the most suitable. Such a comparison, implicit in the method of calculating this indicator, may therefore conflate case-mix complexity and socio-demographic factors which also affect length of stay. Nevertheless, since we have no systematic way of addressing these factors, these rates constitute the best available quantitative data on the effect of case-mix complexity.

Figure 4.4 displays standardised length of stay data for the all acute specialties group, expressed in terms of deviations from the national average figure of 100. Comparing the data from the non-standardised and standardised figures, that is Figures 4.2 and 4.4, in terms of deviations from the England figure, we find that inner deprived London has an average length of stay sixteen per cent higher than the national average, but the standardised value of 115 is still fifteen percentage points above the national average. In other words, patients tend to stay longer in inner deprived London than they do nationally,

Figure 4.4

Standardised average length of stay by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

and even taking account of the differences in cases covered there is still a considerably greater length of stay than national figures would suggest.

In the case of urban London, average length of stay is twelve per cent higher than the national average, but the standardised value is 105, just five points above the national average. So, for this category, case-mix appears to be a major cause of the greater length of stay. High-status London shifts from six per cent above average to four per cent. Surprisingly, non-London inner deprived districts have a standardised value five points above the national average, indicating a less complex case-mix than average, in terms of its effect on length of stay.

It is important to emphasise that the standardised length of stay data do not indicate whether case-mix in London *is* more complex than elsewhere, but merely whether we could expect the average length of stay values we find on the basis of case-mix differences. We provide some further discussion of the case-mix issue at the end of the chapter. Nevertheless, these results would appear to suggest that case-mix is not the primary determinant of longer lengths of stay in inner deprived London, but it would seem to have a strong influence on the length of stay in urban London.

The fourth factor is the availability of community-based care, which we define in its widest possible sense as the capacity of either statutory and voluntary agencies or other carers to look after patients upon discharge. It seems probable that this capacity is reduced in London owing to its highly urban character and the mobility of its population (Hughes and Gordon, 1992; North East Thames RHA, 1991). Thus patients may have to be kept in hospital longer than may otherwise be deemed clinically necessary. However important a factor this may be, it is very difficult to address quantitatively, and we can therefore do no more than indicate its possible impact.

The final factor is the greater social complexity of cases in London; in other words, patients presenting for a given treatment in London may require a longer stay because their overall health is poorer, although recent research suggests that this is generally not the case

(Benzeval *et al.*, 1992). One particular problem in London is the number of homeless people, who place a relatively greater demand on acute health services (Scheuer *et al.*, 1991). Again, however, it is not possible to quantify the effect of this, if any, on average lengths of stay. Overall, the evidence supporting the social complexity argument is at best equivocal.

To conclude this section, then, we have found that throughputs in London are consistently lower than in the comparator districts, but to a fairly limited degree, such that "efficiency" in London would not be greatly enhanced by improvements in bed usage, at least at an aggregate level. The most significant factor underlying the throughput differential appears to be average lengths of stay in London. Apart from the possibility of inefficient bed management policies, the most plausible factors which may underlie this disparity appear to be teaching hospital status and perhaps the availability of care in the community, although it is not possible to adduce any quantitative evidence for the latter point. Differences in case-mix complexity may also be involved, but only significantly so in the urban London districts.

Staff per case

As we observed in Chapter 3, staff is the major component of health service costs. In this section we address the issue of the efficient use of human resources in London's hospitals.

We use the familiar status categorisation to display comparative information on the productivity of consultants, non-consultant medical and dental staff, and nurses, using consultant episode as the baseline measure of activity. In Figure 4.5 we show that inner deprived London has some forty per cent more consultants per 10,000 episodes than the England average; even if we relate to equivalent non-London districts we find twenty per cent more consultants per episode. On the other hand, urban and high-status areas seem to correspond closely to national patterns.

Clearly, the effect of teaching hospitals may be significant here.

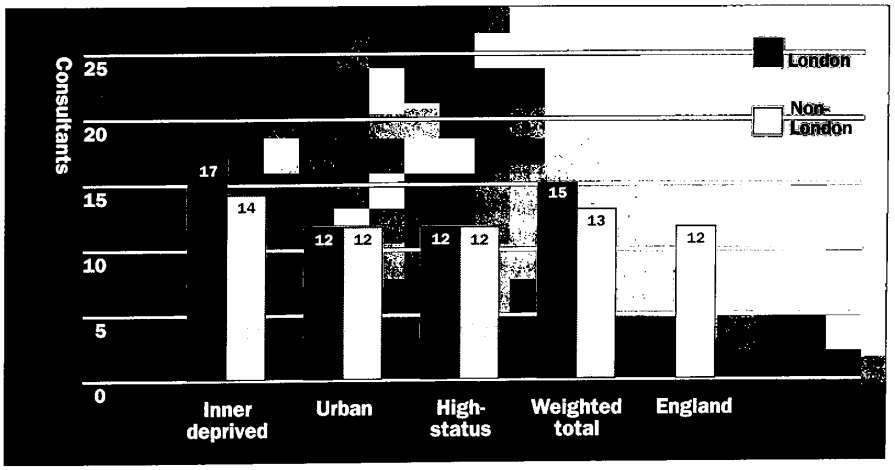


Figure 4.5
WTE consultants per 10,000 episodes, all acute specialties group, 1989–90

Source: Department of Health (1991a)

Table 4.6

WTE consultants per 10,000 episodes by teaching district, all acute specialties group, 1989–90

Source: Department of Health (1991a)

	Inner deprived		Urban	
	London	**Non-London**	**London**	**Non-London**
Teaching	18	15	-	13
Non-teaching	11	14	12	11

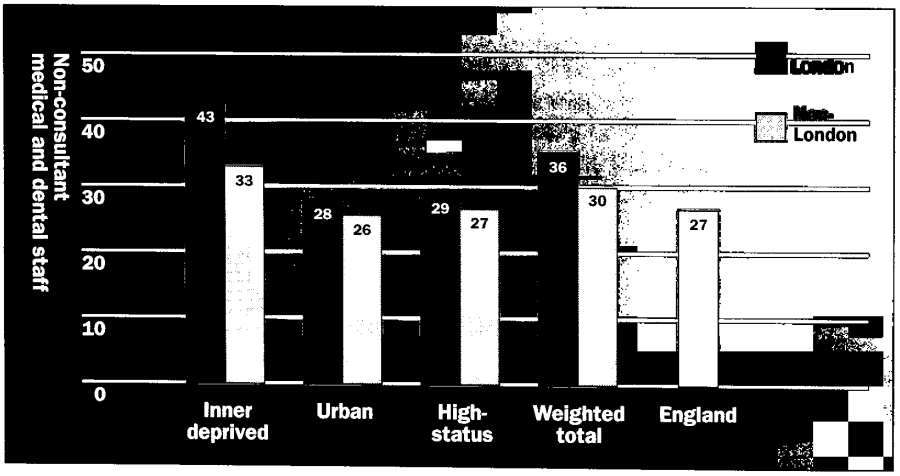
Although the WTE figure for number of consultants excludes contracted teaching time, other aspects of teaching hospital work such as research may have a significant effect. Table 4.6 shows the same data for urban and inner deprived categories further sub-divided by teaching and non-teaching districts, in a manner similar to that employed in the previous section.

For all areas where a comparison is possible there is a greater number of consultants per episode in the teaching districts than in the non-teaching districts. The disparity is particularly marked in inner deprived London, again highlighting the relatively expensive package of care found in these areas of the capital.

Figure 4.6

WTE non-consultant medical and dental staff per 10,000 episodes, all acute specialties group, 1989–90

Source: Department of Health (1991a)

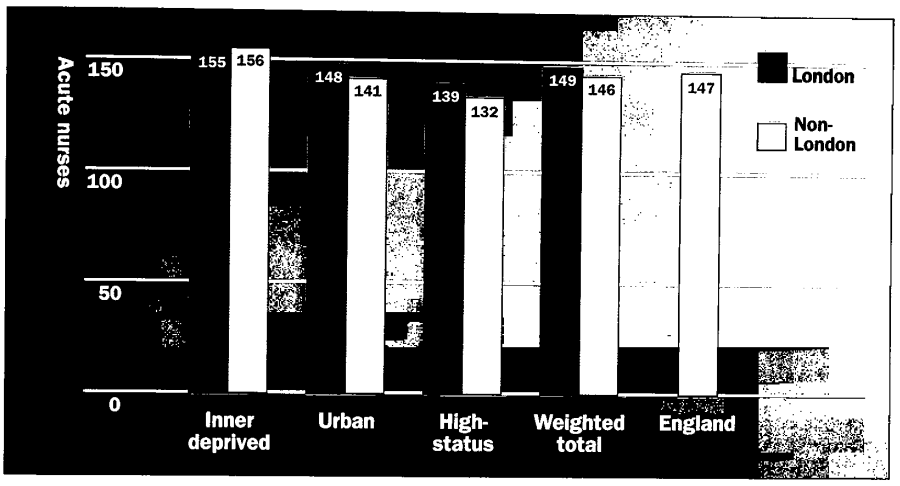


In Figure 4.6 corresponding information is displayed for the number of non-consultant medical and dental staff per episode. The same general pattern emerges; relative to both the national average and its comparator group, inner deprived London has a higher proportion of staff – even more so, in fact, than is the case for consultants. Again, the other areas correspond closely to the overall national picture. Just as teaching district status corresponded with the greater proportion of consultants in inner deprived London, the same is true with non-consultant medical and dental staff. Across a range of indicators, then, there is a disproportionate input of resources relative to activity in the inner deprived teaching districts.

Turning to nurses, we find a somewhat different picture of resource use. Figure 4.7 shows that inner deprived London uses only five per cent more acute nurses per 10,000 cases than the national average, and, comparing like with like, inner deprived London districts

Figure 4.7

WTE acute nurses per 10,000 episodes, 1989–90



Source: Department of Health (1991a)

have the same rate as inner deprived non-London districts. It is in the urban and high-status London hospitals that more nurses are used per episode than in the equivalent non-London districts. But even here London is close to the national average.

In Chapter 3 we saw that inner deprived London has nursing levels comparable with those in equivalent non-London districts. We are now seeing this reflected in the relatively efficient usage of nursing staff. It is in terms of consultants that London episodes of care would appear to be high users of human resources: again this is pointing to a particularly expensive pattern of care in London.

Resource costs

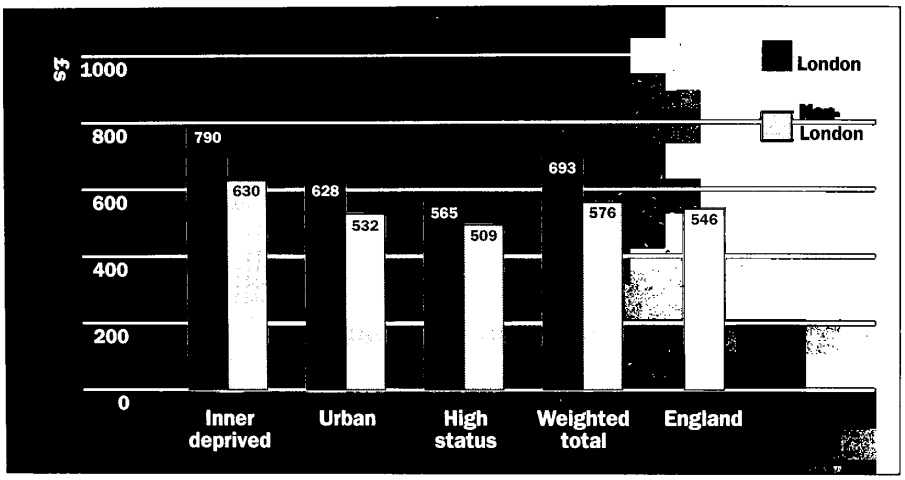
So far we have considered a number of measures of relative efficiency. How is efficiency reflected in the relative cost of providing hospital services? In Chapter 3 we presented information which relates overall expenditures to population. To complete this chapter, we now relate costs to the quantity of work carried out, in order to understand the differences both within London and, using our comparative framework, between London and non-London status categories.

In Figure 4.8, we present the average cost of a consultant episode, for the all acute specialties group, by status category. On average, a case presenting anywhere in London costs about twenty per cent more than in comparable districts elsewhere. This should come as no surprise, given the cost of inputs in London which we examined in Chapter 3. However, the table also shows a strong trend towards increased costs per episode from the high-status areas to the inner deprived.

This may be related to the prevalence of teaching hospitals in the inner deprived areas. In the figure we see that in high-status areas the average cost per episode is quite close to the national figure. In these areas, only one district from a total of thirty-five is a teaching district. In the inner deprived areas, however, where average cost per episode is some thirty-three per cent higher than the national figure, thirteen out of twenty are teaching districts. In inner deprived London, all but

Figure 4.8

Average cost per episode by status category, all acute specialties group, 1989–90



Source: Department of Health (1991a)

three districts are teaching districts. The average cost per episode in urban districts falls between the two; here, eight districts from a total of thirty-eight are teaching districts.

We are able to extend our analysis to a more detailed level here, using information on cost per episode for acute specialties at the individual hospital level. At present this information is available to us only for the London hospitals. Nevertheless, it allows us to look at comparisons between teaching and non-teaching hospitals.

Table 4.7

Average cost per episode in London hospitals, all acute specialties group, 1989–90

Source: Audit Commission (1991)

Type of area	Cost per episode
	£
Inner deprived	918
Urban	580
High-status	531
Teaching	1,052
Non-teaching	531

Table 4.7 summarises hospital-level average cost per episode data. Since the data come from a different source, the specialty level data, which is aggregated to form the all acute specialties group, does not correspond exactly with the specialty level data we generally make use of from the Health Service Indicator data set. Moreover, the figures presented here omit a number of hospitals for which data is unavailable – including important ones such as the Royal Free, the Whittington and St George's. The figures therefore reflect only about eighty per cent of activity in London as a whole. The inconsistency between the average cost per episode figure for inner deprived London in Table 4.7 and the corresponding figure given in Figure 4.8 is probably due to these two factors.

Despite the foregoing caveats, the upper part of Table 4.7 clearly replicates the pattern we observed in the previous figure. The lower

part of the table, on the other hand, points to the enormous disparity between teaching and non-teaching hospitals when the figures are reclassified into these categories: on average, an episode of care in teaching hospitals in London costs almost twice as much as in non-teaching hospitals there.

To be sure, the above distinction between teaching and non-teaching hospitals partially confounds the other important distinction between status categories, since all the London teaching districts are within the inner deprived area. Nevertheless, the figures we present indicate the considerable costs of maintaining concentrated acute care in central London with an associated concentration of medical education.

Table 4.8

Average cost per episode in hospitals outside London, 1989–90

Specialty	Cost per episode	
	Teaching	Non-teaching
	£	£
Surgery	683	512
Paediatrics	422	305
Medicine	589	500
T&O	791	690
ENT	435	335
Ophthalmology	485	458
Gynaecology	304	298

Source: Audit Commission (1991)

Table 4.8 presents a similar comparison between teaching and non-teaching hospitals outside London across a number of specialties. Information is not available at a sufficiently detailed level to calculate a corresponding all acute specialties group. It can nevertheless be seen from the table that the average cost per episode in teaching hospitals, for the major specialties, again tends to be greater than in non-teaching hospitals. However, the effect is not as marked; the differences in cost range from only two per cent in gynaecology up to thirty-eight per cent in paediatrics, compared to an all acute figure of nearly 100 per cent in London. In fact, in some smaller specialties the average cost per episode is less in teaching hospitals than in non-teaching hospitals.

To summarise, it would seem that high cost per episode correlates to a certain extent with teaching hospital status, particularly in the inner deprived London teaching districts. Data presented earlier in the chapter may point to factors underlying this apparent relationship. We saw that average length of stay was considerably higher for teaching districts than for non-teaching districts. We also noted that there was a greater number of WTE consultants per episode in teaching districts. Both these factors would tend to increase the average cost per episode.

An obvious possibility is that greater lengths of stay in teaching hospitals are due to greater case complexity. Earlier, however, we saw that differences in case-mix complexity did not appear to account for greater lengths of stay in inner deprived London. This does not, of course, mean that case-mix in inner deprived London is not more

complex. However, if case-mix complexity does not manifest itself in greater lengths of stay then it may reasonably be asked in what sense it can result in increased costs.

The York Health Economics Consortium has recently completed a review of the evidence on higher costs of health care provision in inner London (Akehurst *et al.*, 1991). They refer to work which the CASPE research group undertook for the Inner London Health Authority Chairman's Group on the question of case-mix differences and cost per case in inner London. It was found that the average difference in cost per case attributable to case-mix differences was 6.8 per cent higher for North West Thames RHA inner London districts compared with outer London, and 11.1 per cent for outer London compared to the shire districts. The equivalent comparisons for South East Thames RHA were eleven and 1.4 per cent. No comparisons were available for North East and South West Thames.

These figures would suggest that, for example, a case costing an average of £100 in a Hertfordshire acute hospital would cost about £19 more in one of Parkside's hospitals purely as a result of the difference in average complexity of case. This takes no account of any other factors which may contribute to greater costs in inner London.

The conclusions which can be drawn from this work are at best partial. Although it is only in North West Thames districts that the effect of case-mix complexity on cost per episode is deemed unequivocally to be an important factor, the mechanism by which this occurs remains to be demonstrated if we accept the finding that case-mix complexity does not underlie increased length of stay.

Further research is required to establish the effect of case-mix differences, if any, on hospital output in London. What we have seen very clearly in this chapter is that average cost per episode in London – particularly inner deprived London – is extremely high. This is partly an inevitable result of the high price of inputs in London, but there seems to be an additional effect. Although we can identify plausible factors to account for this, it is not possible at present to establish their role and relative importance.

In the next chapter, the final piece of the jigsaw is added when we consider the usage of NHS hospital services by Londoners, and – perhaps more importantly – who is actually using the considerable resources of the London hospitals.

CHAPTER 5

The utilisation of hospital services

We have seen that there is a higher concentration of acute services in London than could be justified purely in terms of the size of resident population. However, this is not the full picture; it must be balanced against who is actually using the services. It is well known that there is a net inflow of patients to London. We shall see that this net inflow constitutes about five per cent of all cases treated in London. What is not so well documented is the flow of patients within London and, in particular, the flow of patients into the inner deprived districts, those which seem to be particularly heavily resourced.

Hospitalisation rates

We shall look at these flows in some detail later in this chapter, but first we consider the rate of hospitalisation for London residents. In considering the hospitalisation rate we are looking at the amount of care which residents of a particular area receive – it may be a district or a region, for example – regardless of the district in which treatment occurs. Treatment in SHA hospitals is also included. Thus the Hampstead resident admitted to St James's in Leeds adds to the hospitalisation rate for Hampstead DHA. Similarly a Liverpool resident admitted to St Mary's in Paddington will add to the hospitalisation rate of Liverpool DHA, not that of Parkside.

Table 5.1 gives hospitalisation rates in 1989–90, for the all acute specialties group, for each of the London districts, together with the England average.

We see that in England as a whole there are 125 admissions per 1000 resident population, but the inner London figure is twenty per cent higher and the outer London figure is also marginally higher. In inner London there is a range of values from 118 in Hampstead to 203 in Bloomsbury, whereas in outer London there is less variation: from 113 in Redbridge to 157 in Newham. We grouped districts according to whether they were in north or south London, but found that there is little difference between the two groupings – north London districts have an average of 134 compared to 132 in south London.

Inner London residents in particular would seem to be making greater than average use of hospital services. Although there are many factors influencing this, they are generally reducible to two types of argument: the first suggests that the proximity of such a relatively great quantity of hospital resources increases the effective demand for these resources; the second would point to a greater relative need for usage

Table 5.1

Hospitalisation rate per 1000 resident population (all acute admissions), Greater London, 1989–90

District	Hospitalisation rate
Riverside	125
Parkside	151
Hampstead	118
Bloomsbury	203
Islington	167
City and Hackney	135
Tower Hamlets	156
Greenwich	136
West Lambeth	155
Camberwell	144
Lewisham and North Southwark	136
Wandsworth	142
INNER LONDON	145
Barnet	115
Harrow	132
Hillingdon	133
Hounslow and Spelthorne	130
Ealing	132
Barking, Havering and Brentwood	121
Newham	157
Enfield	114
Haringey	132
Redbridge	113
Waltham Forest	124
Bexley	114
Bromley	113
Croydon	125
Kingston and Esher	147
Richmond, Twickenham and Roehampton	118
Merton and Sutton	138
OUTER LONDON	126
ENGLAND	125

Source: Department of Health (1991a)

of hospital resources on a combination of grounds which include greater intrinsic needs because of demographic and socio-economic factors, and a primary and community health care system which militates in favour of extra usage of hospital-based resources rather than effective treatment in the community.

We shall not be addressing all of the issues raised above: for example, the notion of supply creating its own demand would be particularly difficult to address without some knowledge of the individual's decision-making process. At the aggregate levels of data which we have, it is problematic to answer questions of motivation: all that is possible is to observe the proportion of residents travelling for care rather than receiving it in their local area. However, in the remainder of this section we look at hospitalisation rates within our comparative framework, and indicate how this suggests that London is responding to the greater needs of its population.

In Figure 5.1, we set out hospitalisation rates in terms of our status categories for London and non-London residents. Some interesting facts emerge. For both the inner deprived and urban status groups, London has a marginally lower rate than its non-London equivalent. But in the case of the high-status group, London's hospitalisation rate is slightly higher – by just three per cent.

What this suggests is that London may well have a high rate when compared with a bald national average figure, but it matches very closely with rates observed in other districts which have similar socio-economic characteristics. Indeed, if anywhere, it is in the high-status areas of London that hospitalisation rates are higher than we might expect.

Patient flows

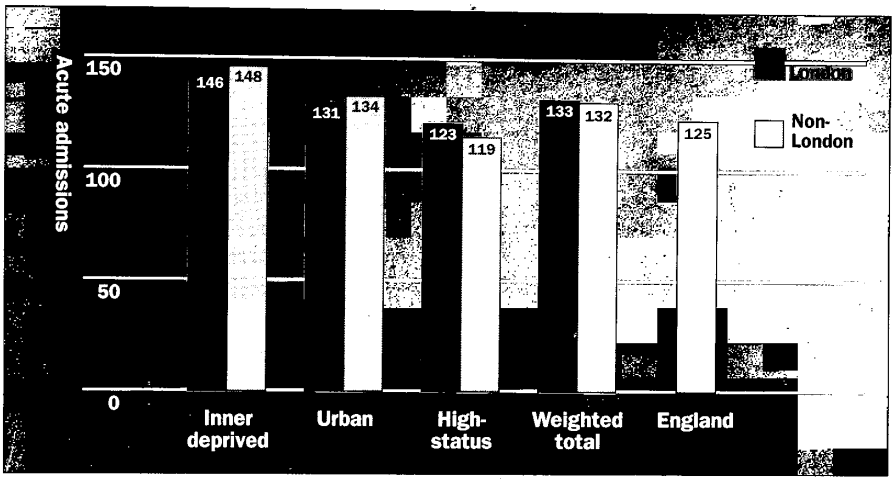
In this section we consider where patients go for treatment, using national patient flow information for 1988–89, the latest year for which data were available from the Department of Health (1991b). The data were organised at the district level and show flows between districts, and also to SHAs.

In Table 5.2, we present patient flow data for inner deprived, urban and high-status London, total London, non-London and England, by area of residence. We also present flow data for the SHAs, which have only one-way flows, since they are not associated with any district of residence. A more detailed discussion is provided in Box 5.1.

Each row gives the area of treatment and each column gives the area of residence. Thus, the figure in the first row and first column is the number of inner deprived London residents who were treated in inner deprived London hospitals. The percentages given in each row are the percentages of patients treated in the area corresponding to that row who came from the area of residence of that column. Thus, we see that sixty-nine per cent of cases treated in inner deprived London emanate from there. The percentages given in each column are the percentage of patients residing in the area corresponding to that column who are treated in the particular area of that row. Thus, eighty-six per

Figure 5.1

Hospitalisation rate per 1000 resident population (all acute admissions) by status category, 1989–90



Source: Department of Health (1991a)

cent of inner deprived London residents are treated in inner deprived London hospitals, eight per cent are treated in SHAs, leaving only six per cent treated elsewhere.

We see that nearly twenty-one per cent of patients treated in inner deprived London come from urban or high-status London districts. When the non-London figures are added, we have a flow of some thirty per cent into inner deprived London. There is a flow of just under six per cent in the opposite direction. Calculating the net flows we get the following: out of 500,000 cases treated in inner deprived London, approximately 150,000 are not resident there; on the other hand, fewer than 25,000 out of 400,000 cases flow out of inner deprived London – 345,000 cases are treated there and the remaining 33,000 cases are treated in hospitals which are part of the SHAs: so there is a net inflow of 125,000 cases per annum, or twenty-five per cent of the total volume of activity in inner deprived London hospitals.

Box 5.1

PATIENT FLOWS IN THE THAMES REGIONS

In Appendix 6, we present patient flow figures for the all acute specialties group, for 1988–89, the most recent year available at this level of detail. Tables A6.1–4 show flows for each of the Thames regions respectively, organised by the inner deprived, urban and high-status categories, and a non-London Thames district of residence category: detailed flow information is given by district of treatment. Table A6.5 provides some further aggregations. Thus we have non-Thames, non-London and London residents, and also those whose district of residence is unknown.

For some districts of treatment there is a large shortfall in the coding of postcode information which can be used to identify district of residence. In such cases, we have adopted the procedure of allocating unknown cases according to the proportions of known cases flowing to the various districts, or aggregates of districts. This is not particularly satisfactory, but it is probably the least controversial assumption which we might make; even at the local level it is not easy to allocate such cases in a foolproof way. We would argue that our figures are fair approximations to what is occurring, and that the percentage flow figures are probably the most important indicators to consider.

Table 5.2

Patient flows for London status areas, all acute specialties, 1988–89

Area of treatment	Area of Residence: Inner deprived		Urban	
Inner deprived	345,786	69.2%	24,078	4.8%
	85.9%		18.2%	
Urban	5,245	4.3%	86,881	70.9%
	1.3%		65.8%	
High-status	14,786	4.5%	7,656	2.3%
	3.7%		5.8%	
Total London	365,817	38.3%	118,616	12.4%
	90.9%		89.9%	
Non-London	3,521	0.1%	2,200	0.0%
	0.9%		1.7%	
SHAs	33,290	36.5%	11,156	12.2%
	8.3%		8.5%	
England	402,627	6.7%	131,972	2.2%

Source: Department of Health (1991b)

Box 5.2

FLOWS BETWEEN NORTH AND SOUTH LONDON

We have also looked at patient flows in terms of north and south London and find that flows between north and south are relatively small. Thus, only one per cent of north London residents are treated in south London, and nearly six per cent of cases involving south London residents are treated in north London.

North London districts are much more substantial users of the SHAs, with 7.3 per cent of their total residents being treated in SHAs, compared to the south London figure of 3.4 per cent. Almost ninety per cent of the north London residents are treated in a north London district: there may be an argument for restructuring the provision of health care on a north/south London basis.

Converting this rather crudely into resource terms, we are looking at 2500 beds or £150 million or 15,000 staff which are being used for the treatment of non-residents: a somewhat different picture of resource utilisation in inner deprived London is emerging.

For urban London and high-status London, on the other hand, we find that there are inflows of approximately thirty per cent (35,000) and seventeen per cent (55,000) respectively, and outflows of twenty-

High-status		Total London		Non-London		England
79,549	15.9%	449,414	89.9%	50,565	10.1%	499,979
19.4%		47.6%		1.0%		8.3%
23,925	19.5%	116,052	94.7%	6,465	5.3%	122,517
5.8%		12.3%		0.1%		2.0%
275,786	83.0%	298,228	89.8%	33,991	10.2%	332,219
67.2%		31.6%		0.7%		5.5%
379,261	39.7%	863,693	90.5%	91,022	9.5%	954,715
92.4%		91.4%		1.8%		15.9%
14,022	0.3%	19,742	0.4%	4,935,025	99.6%	4,954,767
3.4%		2.1%		97.6%		82.6%
17,223	18.9%	61,669	67.7%	29,483	32.3%	91,152
4.2%		6.5%		0.6%		1.5%
410,505	6.8%	945,104	15.8%	5,055,530	84.2%	6,000,634

six per cent (35,000) and twenty-eight per cent (115,000) respectively: net urban flows are zero, but for the high-status areas, there is a net flow of their patients into hospitals in other areas of some 60,000 cases, or approximately fifteen per cent of their total residents treated. These figures are exclusive of flows to SHAs. When these are added, urban areas have an additional outflow of some 11,000 cases and high-status of 17,000. A more detailed analysis of these flows, on a district-by-district basis, is presented in Appendix 6.

What we have seen broadly conforms to the pattern of usage which we observed in hospitalisation rates for the different status categories, but we now have a more detailed account of just where these patients are being treated. If inner deprived London residents had the same hospitalisation rate as pertains nationally, this would imply a reduction in cases treated of some 60,000 or fifteen per cent. On the other hand, if we consider the rate for the non-London equivalent group to be that which is relevant, then this would imply a small increase in cases treated.

For the urban and high-status groups, hospitalisation rates are fairly close to the national average. What is plain from the evidence presented in Table 5.3 is that the high-status London districts do not have the capacity to treat all of their residents currently receiving

Table 5.3

Source and use of acute care in London, episodes of care, 1988–89

Source: Department of Health (1991b)

Type of area	Producer	User	Net flow
Inner deprived	500,000	403,000	+97,000
Urban	123,000	132,000	-9,000
High-status	332,000	410,000	-78,000

treatment within the NHS. There may indeed be some under-utilisation of existing capacity, and this is a question which could be addressed by more detailed research at the local level. The difference of approximately 80,000 cases fits very conveniently with the number of high-status London residents treated in inner deprived London hospitals.

CHAPTER 6

Conclusion

In this paper, we have shown that a considerable quantity of NHS resources are used in London, and more particularly in the inner deprived London districts. The crucial question for health care planners in the future is the validity of spending so much of the nation's health care resources in the capital.

First, we summarise the information which we have assembled in the preceding chapters, highlighting the distinctive features of health care in London; we then examine some of its more pertinent aspects. Perhaps we end by posing more questions than we actually answer, but we hope that we have provided a clearer analytic framework within which to address these issues.

The use of resources in London

The picture presented of London's acute health services is very much dependent on the kind of comparative framework which we use. At the simplest level, we know that in 1989–90, London, with a resident population of seven million, had 20,000 acute beds, employed 125,000 WTE staff and spent £1.2 billion on acute services. The total product in terms of episodes of care in the acute specialties was of the order of one million inpatient and day cases. All of these are commonly related to national figures by expressing them in terms of resident population.

However, one question posed by our paper is the validity of using the national experience as a comparison for London. We have developed an alternative taxonomy of London which divides London districts between three groups – high-status, urban and inner deprived – and we provided, for each, a set of comparator groups throughout England.

In national terms we have seen that, whereas there are 2.5 acute beds per 1000 residents, 1540 staff per 100,000 residents, acute spend is £121 per head and the hospitalisation rate is 125; for inner deprived London the comparable figures are 3.9 beds, 2540 staff, £284 and a rate of 146; for urban London, 2.5 beds, 1530 staff, £126 and a rate of 131; and for high-status London, 2.1 beds, 1330 staff, £103 and at a rate of 123. On this basis, inner deprived London certainly looks as if it has more than its fair share of resources. High-status London, in contrast, is shown to be under-resourced.

However, when we use these comparator groups to compare like with like, we find a pattern of care which is not very different in London from that elsewhere. There is clearly a "gradient" of resource use from high-status to inner deprived areas, but in most cases there is no obvious London effect.

Why more resources for London?

Our analysis has shown that London uses far more resources than would be justified purely on population grounds. The reasons for this are largely rooted in the past. The great decline in the population of London over the last fifty years has left the capital with some of the major medical centres in the country – in terms of practice, teaching and research – but with insufficient residents to justify these resources (Rivett, 1986). The resulting apparent over-resourcing has in large measure been offset by the flows of patients into the London area from the surrounding districts. This has been the case particularly in the inner deprived districts of London, where many of the teaching hospitals and, indeed, most of the postgraduate teaching hospitals are located.

Our analysis of patient flows has highlighted this phenomenon, and shown it to be particularly true of flows from the high-status London districts, where we have seen nearly 80,000 cases being treated in inner deprived London hospitals.

But this poses the crucial question: is it justifiable to treat these patients in inner deprived London, or should the resources be moved closer to the areas where patients live? The evidence we have presented in Chapter 4 would suggest that London is only marginally less efficient at producing health care services, although it would certainly seem to be economically inefficient to produce services in such a high-cost environment.

There are services which would have to be produced on the London site – this would apply particularly to emergency services – very much in the same way that policing of London requires a London police force: it cannot be done elsewhere. The question of what services should be considered a legitimate part of the core of local health care provision for inner deprived London residents is one which warrants further research. Nevertheless it is unlikely to provide an adequate justification for the current extent of services in London.

London has a major teaching and research role in health care, but again it is arguable whether this justifies the level of resources in London. Our paper has not focused on this side of the debate, although we have brought out some of the special aspects of the teaching hospitals. In particular, we have shown that medical education has major cost implications for the provision of acute care. This is particularly the case in inner deprived London. It may be questionable whether the high-cost London site should sustain the additional costs of such a large proportion of national medical education, but clearly there are significant cost implications which must be borne wherever it is conducted.

Trends away from strongly hospital-based teaching (Towle, 1992) may change the overall financial picture. In this respect, London may have an advantage over other areas in terms of the infrastructural opportunities it offers for more dispersed medical teaching. Nevertheless, the cost of present patterns of medical education in London requires further attention, both from researchers and policymakers.

Finally, we have presented information on the use of health resources by the inner deprived London residents themselves. We have shown that there are higher hospitalisation rates than nationally, but these may relate to special needs of London residents – they are certainly not out of line with those of comparable non-London districts. What is clear is that even with this higher usage of health resources in the acute sector, there would be a considerable surplus of resources in London if the influx of patients to hospitals like St Mary's and University College was not so high.

In fact, if we break down bed usage in a fairly simplistic manner, of 10,500 beds in inner deprived London, something in the order of:

- 500 would be accounted for by the differential in throughput between this area and the rest of the country;
- 1500 by the fact that inner deprived London has a higher than average hospitalisation rate;
- 2000 beds are used by the net flow of non-residents.

The remaining 6500 beds would be sufficient to treat inner deprived London residents, at national hospitalisation and throughput rates, with no flows to hospitals elsewhere.

Clearly inner deprived London is a relatively expensive provider of acute care for the residents of other areas. If it is to remain an exporter of care, then this must be justified and, perhaps more to the point, the cost implications must be made explicit. If, on the other hand, this situation is to change, then the full import of such changes should be drawn out.

One possibility is that acute services provided in inner deprived London hospitals are shifted to new sites located closer to the populations which are using the existing expensive resources. This would require careful planning and implementation; alternatively care could be provided on existing sites, in outer London, say, but this requires either existing spare capacity or additional investment in these sites.

A second possibility is that the changing patterns of care, away from high-cost inpatient treatment to various forms of ambulatory care and care in the community, may result in a natural decline in the levels of hospital service necessary, thus allowing reductions in acute care provision in inner deprived London, with no corresponding increases elsewhere. In implementing such changes, there should be an awareness of the need to maintain certain core services locally, and also to allocate resources to new – and old – forms of care in a fair and rational manner.

In the final analysis, acute service provision in London cannot be divorced from broader social and economic policy issues, nor indeed from the wider political arena. It has not been our task in this paper, however, to provide a prescription for future action. Rather we hope to have produced a useful comparative framework for looking at the provision of acute health services in London, and to have given a fuller picture of the pattern of those services from this distinctive perspective.

Appendix 1 District health authority classification

Table A1.1
London boroughs

Inner London	Outer London
City of London	Barking and Dagenham
Camden	Barnet
Greenwich	Bexley
Hackney	Brent
Hammersmith and Fulham	Bromley
Islington	Croydon
Kensington and Chelsea	Ealing
Lambeth	Enfield
Lewisham	Haringey
Southwark	Harrow
Tower Hamlets	Havering
Wandsworth	Hillingdon
Westminster	Hounslow
	Kingston upon Thames
	Merton
	Newham
	Redbridge
	Richmond
	Sutton
	Waltham Forest

Table A1.2
London district health authorities

Inner London	Outer London
Riverside	Barnet
Parkside	Harrow
Hampstead	Hillingdon
Bloomsbury	Hounslow and Spelthorne
Islington	Ealing
City and Hackney	Barking, Havering and Brentwood
Tower Hamlets	Newham
Greenwich	Enfield
West Lambeth	Haringey
Camberwell	Redbridge
Lewisham and North Southwark	Waltham Forest
Wandsworth	Bexley
	Bromley
	Croydon
	Kingston and Esher
	Richmond, Twickenham and Roehampton
	Merton and Sutton

Table A1.3
District health authorities by status category

Inner deprived (London)
Riverside
Parkside
Hampstead
Bloomsbury
Islington
City and Hackney
Newham
Tower Hamlets
Haringey
West Lambeth
Camberwell
Lewisham and North Southwark
Wandsworth

Inner deprived (non-London)
Central Birmingham
East Birmingham
West Birmingham
Wolverhampton
Liverpool
North Manchester
Central Manchester

Urban (London)
Hounslow and Spelthorne
Ealing
Waltham Forest
Greenwich

Urban (non-London)
North West Durham
Gateshead
Newcastle
North Tyneside
South Tyneside
Sunderland
Hull
Bradford
Calderdale
Huddersfield
Dewsbury
Leeds Western
Leeds Eastern
Leicestershire
Sheffield
South Bedfordshire
Portsmouth and South East Hampshire
Southampton and South West Hampshire
Milton Keynes
Bristol and Weston
Plymouth
South Birmingham
Coventry
Sandwell
Halton
St Helens and Knowsley
Preston
Blackburn, Hyndburn and Ribble Valley
Burnley, Pendle and Rossendale
Bolton
South Manchester
Oldham
Rochdale
Salford

High-status (London)
Barnet
Harrow
Hillingdon
Barking, Havering and Brentwood
Enfield
Redbridge
Bexley
Bromley
Croydon
Kingston and Esher
Richmond, Twickenham and Roehampton
Merton and Sutton

High-status (non-London)
North Hertfordshire
East Hertfordshire
North West Hertfordshire
South West Hertfordshire
West Essex
Southend
Dartford and Gravesham
North West Surrey
South West Surrey
Mid Surrey
East Surrey
East Berkshire
Wycombe
Frenchay
Southmead
Rugby
South Warwickshire
North Birmingham
Solihull
Macclesfield
Southport and Formby
Stockport
Trafford

Appendix 2 Defining acute services

In this appendix we list the consultant specialties which we have aggregated into the "all acute specialties" group used throughout this paper. The taxonomy is derived from the Health Service Indicator data set for 1989–90 released in 1991 by the Department of Health. The principal division in the "all acute specialties" group is between the surgical and medical groups. These are listed in the left- and right-hand columns respectively. Each group is further sub-divided into other groups, which are listed down the page under their relevant (emboldened) headings. Figures in brackets refer to the Körner code for each specialty.

The specialties which are excluded from the definition of acute are as follows: geriatric and psychogeriatric medicine (040), psychiatry group (070), maternity group (050), accident and emergency (180), pathology and radiology group (081), GP medicine (620) and anaesthetics (190).

Acute surgical group

General surgery (100)
Urology (101)
Trauma and orthopaedics (110)
ENT–otolaryngology (120)
Ophthalmology (130)
Neurosurgery (150)
Plastic surgery (160)
Gynaecology (502)
Dental surgery group (012)
- Oral surgery (140)
- Restorative dentistry (141)
- Paediatric dentistry (142)
- Orthodontics (143)

Other surgery group (013)
- Cardiothoracic surgery (170)
- Paediatric surgery (171)

Acute medical group

Paediatric group (031)
- Paediatrics (420)
- Paediatric neurology (421)

Other acute medical group (032)

General medical group (033)
- General medicine (300)
- Gastroenterology (301)
- Endocrinology (302)
- Cardiology (320)
- Thoracic medicine (340)
- Nephrology (361)

Haemotology group (034)
- Haemotology – clinical (303)
- Haemotology – pathology (823)

Clinical physiology (304)
Clinical pharmacology (305)
Audiological medicine (310)
Clinical genetics (311)
Palliative medicine (315)
Dermatology (330)
Infectious diseases (350)
Genito-urinary medicine (360)
Medical oncology (370)
Nuclear medicine (371)
Neurology (400)
Clinical neurophysiology (401)
Rheumatology (410)
Community medicine (900)
Occupational medicine (901)

Appendix 3 The Special Health Authorities

The group of hospitals located in London, known collectively as Special Health Authorities (SHAs), is independent of the District Health Authorities within which they are located. They are a source of acute service provision in London, but have differed from other NHS hospitals in that they have no direct relationship with the residents of any particular district. Since April 1991, with the introduction of the purchaser/provider split, the position of other NHS hospitals has also shifted towards one of no direct responsibility to the residents of a district. However, the role of the SHAs as centres of postgraduate teaching and research means that they have retained a position of privilege with respect to funding – a guaranteed source of direct funding from the Department of Health.

No account of acute service provision would be complete without some reference to the SHAs, but we feel that they are sufficiently different to warrant this separate appendix: different both in terms of the nature of work undertaken and in their perceived links with the residents of London districts. Here we outline a profile of resources in SHA hospitals, and provide an analysis of who uses the SHAs.

There are eight SHAs, each associated with a school of postgraduate education:

The Hospitals for Sick Children

The National Hospital for Neurology and Neurosurgery

Moorfields Eye Hospital

The Bethlem Royal Hospital and the Maudsley Hospital

Royal Brompton National Heart and Lung Hospitals

The Royal Marsden Hospital

The Eastman Dental Hospital

Hammersmith and Queen Charlotte's Special Health Authority

Most of these have beds on more than one site, but typically the bulk of beds are located in inner deprived London districts. Most tend to be single-specialty hospitals – Hammersmith is a notable exception to this.

In Table A3.1 we present a summary of resources used by the SHAs in 1989–90. They provide an extra 2000 acute beds in London, and employ nearly 11,000 staff, of which almost 1300 are in the medical and dental staff group. We found that thirty-four per cent of medical and dental staff are in fact consultants, compared to a national figure of thirty-one per cent.

The SHAs produced approximately 90,000 episodes of acute care in this period, which gives a throughput rate of forty-eight finished consultant episodes per bed, roughly equivalent to that produced in any inner deprived London hospital, and just four per cent less than the national average.

This was produced at an average cost per episode of £1074, almost

Table A3.1

The use of resources by SHAs, 1989–90

Available acute beds	1925
Total staff	10,970
Total medical and dental Staff	1280
Total revenue expenditure	£266 million

Source: Department of Health (1991a)

twice the national average, and some thirty-six per cent higher than the inner deprived London figure of £790. However, as we saw in Table 4.7, the average cost per episode in London teaching districts, at £1052, is roughly equivalent to that in SHAs. So, in cost terms, the postgraduate and undergraduate teaching hospitals are very similar.

Finally, we look in more detail at who uses the SHAs. Although the SHAs are mostly located in inner deprived London districts, only one-third of the acute care provided is for residents of these areas. Thus, in Table 5.2 we saw the following breakdown of the acute care provided by SHAs:

37% Inner deprived London residents;

31% Urban and high-status London residents;

32% Non-London residents.

Overall, inner deprived Londoners obtain roughly 30,000 episodes of care from the SHAs, or eight per cent of their total utilisation of acute care services nationally, in contrast to the eighty-six per cent of total care which they receive in inner deprived London hospitals.

To summarise, the SHAs are expensive providers of health care when compared with the national average, but seem to have a similar cost profile to that of the London teaching hospitals. It is clear that they are more than just a resource for local residents, serving as they do almost as many non-Londoners as inner deprived Londoners. Any overall plan for London needs to take account of the SHAs, recognising the special nature of this group of hospitals.

Appendix 4 Resource tables

Table A4.1

Bed availability, Greater London, 1989–90

District	General Surgery	Paed-iatrics	General Medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute	Population 1989
Riverside	194	113	198	95	24	21	45	953	279,106
Parkside	248	171	363	141	31	35	77	1,180	374,677
Hampstead	101	32	176	65	14	14	40	628	109,988
Bloomsbury	223	84	264	241	71	0	74	1,162	127,103
Islington	100	98	163	75	12	0	35	508	169,479
City and Hackney	223	85	239	101	22	7	45	886	196,048
Tower Hamlets	160	71	202	74	19	1	32	723	163,857
Greenwich	155	111	230	99	0	19	63	808	213,448
West Lambeth	133	91	139	66	16	29	37	625	157,574
Camberwell	131	114	343	95	17	18	40	839	210,971
Lewisham and N. S'wark	194	114	342	137	44	3	36	1086	316,223
Wandsworth	169	54	224	111	26	17	54	907	187,532
INNER LONDON	2,031	1,138	2,883	1,300	296	164	578	10,305	2,506,066
Barnet	135	123	192	92	20	16	47	638	310,408
Harrow	103	124	170	59	29	0	26	572	193,837
Hillingdon	134	113	237	111	0	15	38	835	235,067
Hounslow and Spelthorne	146	37	222	114	27	16	57	643	281,253
Ealing	86	26	110	65	0	0	26	331	293,721
Barking, Havering and Brentwood	225	94	299	124	13	25	60	1,059	449,062
Newham	109	101	137	65	0	0	28	465	207,040
Enfield	111	99	151	66	17	0	27	491	262,074
Haringey	97	92	117	65	0	14	30	458	189,965
Redbridge	85	53	142	54	0	1	24	383	232,164
Waltham Forest	161	68	200	107	42	18	47	667	211,745
Bexley	54	84	64	49	0	18	23	310	220,008
Bromley	191	85	196	99	28	0	43	673	299,402
Croydon	132	45	186	86	21	11	47	540	317,366
Kingston and Esher	102	86	133	79	13	18	33	471	178,567
Richmond, Twickenham and Roehampton	60	46	66	51	9	0	16	367	232,441
Merton and Sutton	118	131	165	97	16	23	35	629	332,931
OUTER LONDON	2,049	1,407	2,787	1,383	235	175	607	9,532	4,447,051
ENGLAND	24,711	16,903	30,742	18,232	3,637	3,017	8,104	119,148	47,689,395

Source: Department of Health (1991a)

Table A4.2

Bed availability per 10,000 resident population, Greater London, 1989–90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute	Population 1989
Riverside	7.0	4.0	7.1	3.4	0.9	0.8	1.6	34.1	279,106
Parkside	6.6	4.6	9.7	3.8	0.8	0.9	2.1	31.5	374,677
Hampstead	9.2	2.9	16.0	5.9	1.3	1.3	3.6	57.1	109,988
Bloomsbury	17.5	6.6	20.8	19.0	5.6	0.0	5.8	91.4	127,103
Islington	5.9	5.8	9.6	4.4	0.7	0.0	2.1	30.0	169,479
City and Hackney	11.4	4.3	12.2	5.2	1.1	0.4	2.3	45.2	196,048
Tower Hamlets	9.8	4.3	12.3	4.5	1.2	0.1	2.0	44.1	163,857
Greenwich	7.3	5.2	10.8	4.6	0.0	0.9	3.0	37.9	213,448
West Lambeth	8.4	5.8	8.8	4.2	1.0	1.8	2.3	39.7	157,574
Camberwell	6.2	5.4	16.3	4.5	0.8	0.9	1.9	39.8	210,971
Lewisham and N. S'wark	6.1	3.6	10.8	4.3	1.4	0.1	1.1	34.3	316,223
Wandsworth	9.0	2.9	11.9	5.9	1.4	0.9	2.9	48.4	187,532
INNER LONDON	8.1	4.5	11.5	5.2	1.2	0.7	2.3	41.1	2,506,006
Barnet	4.3	4.0	6.2	3.0	0.6	0.5	1.5	20.6	310,408
Harrow	5.3	6.4	8.8	3.0	1.5	0.0	1.3	29.5	193,837
Hillingdon	5.7	4.8	10.1	4.7	0.0	0.6	1.6	35.5	235,067
Hounslow and Spelthorne	5.2	1.3	7.9	4.1	1.0	0.6	2.0	22.9	281,253
Ealing	2.9	0.9	3.7	2.2	0.0	0.0	0.9	11.3	293,721
Barking, Havering and Brentwood	5.0	2.1	6.7	2.8	0.3	0.6	1.3	23.6	449,062
Newham	5.3	4.9	6.6	3.1	0.0	0.0	1.4	22.5	207,040
Enfield	4.2	3.8	5.8	2.5	0.6	0.0	1.0	18.7	262,074
Haringey	5.1	4.8	6.2	3.4	0.0	0.7	1.6	24.1	189,965
Redbridge	3.7	2.3	6.1	2.3	0.0	0.0	1.0	16.5	232,164
Waltham Forest	7.6	3.2	9.4	5.1	2.0	0.9	2.2	31.5	211,745
Bexley	2.5	3.8	2.9	2.2	0.0	0.8	1.0	14.1	220,008
Bromley	6.4	2.8	6.5	3.3	0.9	0.0	1.4	22.5	299,402
Croydon	4.2	1.4	5.9	2.7	0.7	0.3	1.5	17.0	317,366
Kingston and Esher	5.7	4.8	7.4	4.4	0.7	1.0	1.8	26.4	178,567
Richmond, Twickenham and Roehampton	2.6	2.0	2.8	2.2	0.4	0.0	0.7	15.8	232,441
Merton and Sutton	3.5	3.9	5.0	2.9	0.5	0.7	1.1	18.9	332,931
OUTER LONDON	4.6	3.2	6.3	3.1	0.5	0.4	1.4	21.4	4,447,051
ENGLAND	5.2	3.5	6.4	3.8	0.8	0.6	1.7	25.0	47,689,395

Source: Department of Health (1991a)

Table A4.3

Bed availability per 10,000 resident population by status category, 1989–90

	General surgery			Paediatrics	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	7.7	7.8	Inner deprived	4.5	6.6
Urban	5.5	5.9	Urban	2.4	4.0
High-status	4.4	3.7	High-status	3.3	3.2
Total	5.9	5.6	Total	3.7	4.6
England	5.2		England	3.5	

	General medicine			T&O	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	10.8	10.2	Inner deprived	5.0	4.6
Urban	7.6	7.8	Urban	3.9	3.9
High-status	6.1	4.9	High-status	3.0	3.2
Total	8.2	7.4	Total	3.9	3.9
England	6.4		England	3.8	

	ENT			Ophthalmology	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	1.1	1.5	Inner deprived	0.6	1.7
Urban	0.7	0.9	Urban	0.5	0.8
High-status	0.5	0.5	High-status	0.4	0.3
Total	0.8	0.9	Total	0.5	0.9
England	0.8		England	0.6	

	Gynaecology			All acute	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	2.1	2.5	Inner deprived	38.8	41.6
Urban	1.9	1.9	Urban	24.5	29.0
High-status	1.3	1.4	High-status	21.4	19.0
Total	1.7	1.9	Total	28.5	29.2
England	1.7		England	25.0	

Source: Department of Health (1991a)

Table A4.4

Greater London HCHS expenditures (£),1989–90

District	Total revenue expenditure	Total expenditure on hospital services	Total expenditure on community health	Total expenditure on other services
Riverside	172,599,885	140,148,592	16,796,623	15,654,670
Parkside	162,095,596	131,704,530	17,078,877	13,312,189
Hampstead	95,135,200	77,771,120	5,922,366	11,441,714
Bloomsbury	167,198,364	140,128,169	12,597,909	14,472,286
Islington	66,002,451	50,485,179	8,615,209	6,902,063
City and Hackney	113,846,226	91,745,157	11,029,297	11,071,772
Tower Hamlets	98,582,103	80,118,392	10,560,488	7,903,223
Greenwich	80,479,001	63,289,018	10,022,363	7,167,620
West Lambeth	113,133,509	93,520,751	8,277,342	11,335,416
Camberwell	98,232,617	75,955,213	14,208,944	8,068,460
Lewisham and N. S'wark	154,020,615	110,999,021	23,238,286	19,783,308
Wandsworth	126,361,002	109,411,741	9,181,727	7,767,534
INNER LONDON	1,447,686,569	1,165,276,883	147,529,431	134,880,255
Barnet	102,997,172	74,854,817	10,869,654	17,272,701
Harrow	53,101,891	42,679,632	6,327,442	4,094,817
Hillingdon	83,045,671	66,537,413	7,929,155	8,579,103
Hounslow and Spelthorne	74,376,991	58,748,799	10,293,519	5,334,673
Ealing	58,214,303	39,741,102	11,415,790	7,057,411
Barking, Havering and Brentwood	100,027,830	81,586,708	11,178,340	7,262,782
Newham	50,923,403	36,307,569	10,309,529	4,306,305
Enfield	49,812,630	38,579,504	6,720,194	4,512,932
Haringey	57,866,670	39,290,020	7,679,449	10,897,201
Redbridge	54,826,910	43,745,925	7,563,232	3,517,753
Waltham Forest	85,509,471	68,968,534	9,044,449	7,496,488
Bexley	49,334,417	36,905,028	7,356,974	5,072,415
Bromley	73,746,131	57,586,147	10,598,797	5,561,187
Croydon	83,217,113	61,106,311	11,568,241	10,542,561
Kingston and Esher	54,348,016	43,789,459	6,682,285	3,876,272
Richmond, Twickenham and Roehampton	49,079,859	35,816,475	8,698,170	4,565,214
Merton and Sutton	91,968,393	70,632,064	11,902,096	9,434,233
OUTER LONDON	1,172,396,871	896,875,507	156,137,316	119,384,048

Source: Department of Health (1991a)

Table A4.5

Greater London HCHS expenditures per capita resident population (£), 1989–90

District	Total revenue expenditure	Total expenditure on hospital services	Total expenditure on community health	Total expenditure on other services
Riverside	618	502	60	56
Parkside	433	352	46	36
Hampstead	865	707	54	104
Bloomsbury	1,315	1,102	99	114
Islington	389	298	51	41
City and Hackney	581	468	56	56
Tower Hamlets	602	489	64	48
Greenwich	377	297	47	34
West Lambeth	718	594	53	72
Camberwell	466	360	67	38
Lewisham and N. S'wark	487	351	73	63
Wandsworth	674	583	49	41
INNER LONDON	578	465	59	54
Barnet	332	241	35	56
Harrow	274	220	33	21
Hillingdon	353	283	34	36
Hounslow and Spelthorne	264	209	37	19
Ealing	198	135	39	24
Barking, Havering and Brentwood	223	182	25	16
Newham	246	175	50	21
Enfield	190	147	26	17
Haringey	305	207	40	57
Redbridge	236	188	33	15
Waltham Forest	404	326	43	35
Bexley	224	168	33	23
Bromley	246	192	35	19
Croydon	262	193	36	33
Kingston and Esher	304	245	37	22
Richmond, Twickenham and Roehampton	211	154	37	20
Merton and Sutton	276	212	36	28
OUTER LONDON	264	202	35	27

Source: Department of Health (1991a)

Table A4.6

Gross current HCHS expenditure (£), 1989–90

	England	London	Inner deprived Non-London	Total
Hospital				
Acute IP	4,690,020,590	584,265,278	307,349,453	891,614,731
Acute OP	1,093,170,659	180,106,169	72,584,895	252,691,064
Obstetric IP	568,699,672	53,541,760	26,689,203	80,230,963
Obstetric OP	85,257,042	11,816,053	3,774,263	15,590,315
Elderly IP	1,048,205,110	93,570,571	46,867,168	140,437,739
Elderly OP	26,052,911	2,357,587	1,451,740	3,809,326
Mental handicap IP	580,045,382	12,166,918	4,576,954	16,743,872
Mental handicap OP	2,200,908	34,998	104,961	139,959
Mental health IP	1,240,956,039	139,081,918	39,052,726	178,134,644
Mental health OP	76,259,719	13,827,732	4,461,533	18,289,265
Non-psychiatric DP	59,913,911	4,010,627	2,678,250	6,688,877
Psychiatric DP	105,996,821	8,264,685	5,094,464	13,359,149
Other hospital	647,176,359	74,541,159	34,781,252	109,322,412
SUB-TOTAL	10,223,955,124	1,177,585,454	549,466,863	1,727,052,317
Community				
Health visiting	223,881,689	18,599,963	7,712,186	26,312,149
District nursing	386,720,871	26,641,757	13,833,528	40,475,285
Community midwifery	102,222,635	6,006,036	3,812,725	9,818,761
Prevention	61,882,426	6,640,991	1,907,151	8,548,142
Chiropody	50,861,769	4,937,368	2,262,477	7,199,845
Family planning	33,007,109	4,580,764	1,882,280	6463,044
Other CHS inc. school health and general services	759,541,682	88,089,167	33,929,070	122,018,237
SUB-TOTAL	1,618,118,181	155,496,046	65,339,417	220,835,463
Other				
Ambulances	329,062,022			
HQ administration				
Joint finance				
Other	974,024,198			
SUB-TOTAL	1,303,086,220	142,916,141	55,570,786	198,486,927
TOTAL	13,145,159,525	1,475,997,641	670,377,066	2,146,374,707

Source: Department of Health (1991a)

Note: the following abbreviations are used:

IP	inpatient	DP	day care patient
OP	outpatient	CHS	community health services

Table A4.6 continued

Urban			High-status		
London	**Non-London**	**Total**	**London**	**Non-London**	**Total**
102,747,421	1,093,587,085	1,196,334,506	272,795,821	364,312,588	637,108,410
23,771,087	238,867,507	262,638,594	61,908,865	81,127,040	143,035,904
13,140,587	125,471,756	138,612,343	41,902,838	60,307,021	102,209,859
2,371,356	17,538,254	19,909,610	8,938,020	8,012,637	16,950,657
24,476,520	193,987,371	218,463,892	76,999,368	96,410,877	173,410,245
470,207	5,758,408	6,228,615	1,782,044	2,355,579	4,137,623
8,158,840	10,2196,029	110,354,870	39,013,339	112,589,654	151,602,993
59,433	511,458	570,891	138,943	224,736	363,678
37,090,203	249,493,524	286,583,727	96,134,562	128,265,339	224,399,900
1,461,688	18,910,909	20,372,597	3,698,351	5,479,849	9,178,201
1,030,394	11,455,534	12,485,928	3,510,350	6,090,742	9,601,092
1,363,402	22,839,377	24,202,779	5,610,209	11,954,424	17,564,633
14,606,314	140,603,256	155,209,569	41,386,773	59,274,431	100,661,204
230,747,453	2,221,220,469	2,451,967,922	653,819,483	936,404,916	1,590,224,399
6,488,693	47,891,720	54,380,413	14,542,564	23,660,681	38,203,245
10,412,761	78,942,331	89,355,092	27,017,212	39,844,306	66,861,518
1,879,854	21,925,153	23,805,007	6,017,782	10,991,546	17,009,328
1,117,480	12,276,960	13,394,440	5,019,603	5,303,806	10,323,409
1,166,955	10,372,116	11,539,071	3,414,992	4,781,849	8,196,841
615,374	7,295,127	7,910,501	2,603,984	2,641,322	5,245,306
19,095,004	162,118,103	181,213,107	48,778,443	75,290,925	124,069,368
40,776,121	340,821,510	381,597,631	107,394,580	162,514,435	269,909,015
27,056,192	237,491,404	264,547,596	84,291,970	111,554,071	195,846,041
298,579,766	2,799,533,383	3,098,113,149	845,506,033	1,210,473,422	2,055,979,455

Table A4.7

Gross current HCHS expenditure per capita resident population (£), 1989–90

		Inner deprived			Urban			High-status		
	England	London	Non-London	Total	London	Non-London	Total	London	Non-London	Total
Hospital										
Acute IP	98.3	217.2	197.4	210.0	102.7	112.2	111.3	83.6	71.6	76.3
Acute OP	22.9	67.0	46.6	59.5	23.8	24.5	24.4	19.0	16.0	17.1
Obstetric IP	11.9	19.9	17.1	18.9	13.1	12.9	12.9	12.8	11.9	12.2
Obstetric OP	1.8	4.4	2.4	3.7	2.4	1.8	1.9	2.7	1.6	2.0
Elderly IP	22.0	34.8	30.1	33.1	24.5	19.9	20.3	23.6	19.0	20.8
Elderly OP	0.5	0.9	0.9	0.9	0.5	0.6	0.6	0.5	0.5	0.5
Mental handicap IP	12.2	4.5	2.9	3.9	8.2	10.5	10.3	12.0	22.1	18.2
Mental handicap OP	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Mental health IP	26.0	51.7	25.1	41.9	37.1	25.6	26.7	29.5	25.2	26.9
Mental health OP	1.6	5.1	2.9	4.3	1.5	1.9	1.9	1.1	1.1	1.1
Non-psychiatric DP	1.3	1.5	1.7	1.6	1.0	1.2	1.2	1.1	1.2	1.1
Psychiatric DP	2.2	3.1	3.3	3.1	1.4	2.3	2.3	1.7	2.4	2.1
Other hospital	13.6	27.7	22.3	25.7	14.6	14.4	14.4	12.7	11.7	12.1
SUB-TOTAL	214.4	437.8	352.9	406.7	230.7	227.8	228.1	200.4	184.1	190.5
Community										
Health visiting	4.7	6.9	5.0	6.2	6.5	4.9	5.1	4.5	4.7	4.6
District nursing	8.1	9.9	8.9	9.5	10.4	8.1	8.3	8.3	7.8	8.0
Community midwifery	2.1	2.2	2.4	2.3	1.9	2.2	2.2	1.8	2.2	2.0
Prevention	1.3	2.5	1.2	2.0	1.1	1.3	1.2	1.5	1.0	1.2
Chiropody	1.1	1.8	1.5	1.7	1.2	1.1	1.1	1.0	0.9	1.0
Family planning	0.7	1.7	1.2	1.5	0.6	0.7	0.7	0.8	0.5	0.6
Other CHS inc. School health and general services	15.9	32.8	21.8	28.7	19.1	16.6	16.9	14.9	14.8	14.9
SUB-TOTAL	33.9	57.8	42.0	52.0	40.8	35.0	35.5	32.9	32.0	32.3
Other										
Ambulances	6.9									
HQ administration										
Joint finance										
Other	20.4									
SUB-TOTAL	27.3	53.1	35.7	46.7	27.1	24.4	24.6	25.8	21.9	23.5
TOTAL	275.6	548.8	430.5	505.4	298.5	287.2	288.2	259.1	238.0	246.2

Source: Department of Health (1991a)

Note: the following abbreviations are used:

IP inpatient
OP outpatient
DP day care patient
CHS community health services

Table A4.8

WTE staff numbers by staff group, 1989–90

		Inner deprived			Urban			High-status		
	England	London	Non-London	Total	London	Non-London	Total	London	Non-London	Total
M&D	42,995	5,387	2,671	8,058	932	9,971	10,903	2,579	3,741	6,320
N&M	397,116	33,050	18,712	51,762	8,501	87,239	95,740	24,478	38,246	62,724
A&C	98,221	11,146	5,306	16,452	2,355	21,072	23,427	6,108	9,005	15,113
Ancillary	99,591	8,970	5,259	14,229	1,624	23,564	25,188	4,605	8,636	13,241
PAM	36,145	3,376	1,208	4,584	682	7,815	8,497	2,171	3,464	5,635
Scientific & prof.	10,915	1,666	646	2,312	215	2,383	2,598	679	1,014	1,693
Prof. & technical	29,489	3,039	1,616	4,655	543	7,405	7,948	1,533	2,246	3,779
Works	3,438	281	132	413	65	722	787	161	318	479
Building & maint.	15,990	1,478	594	2,072	343	3,430	3,773	959	1,476	2,435
Total	733,900	68,393	36,144	104,537	15,260	163,601	178,861	43,273	68,146	111,419

Source: Department of Health (1991a)

Table A4.9

WTE staff numbers per 100,000 residents by staff group, 1989–90

		Inner deprived			Urban			High-status		
	England	London	Non-London	Total	London	Non-London	Total	London	Non-London	Total
M&D	90.2	200.3	171.5	189.7	93.2	102.3	101.4	79.0	73.6	75.7
N&M	832.7	1,228.8	1,201.7	1,218.9	850.0	894.8	890.6	750.1	752.0	751.2
A&C	206.0	414.4	340.7	387.4	235.5	216.1	217.9	187.2	177.0	181.0
Ancillary	208.8	333.5	337.7	335.1	162.4	241.7	234.3	141.1	169.8	158.6
PAM	75.8	125.5	77.6	107.9	68.2	80.2	79.0	66.5	68.1	67.5
Scientific & prof.	22.9	61.9	41.5	54.4	21.5	24.4	24.2	20.8	19.9	20.3
Prof. & technical	61.8	113.0	103.8	109.6	54.3	76.0	73.9	47.0	44.2	45.3
Works	7.2	10.4	8.5	9.7	6.5	7.4	7.3	4.9	6.3	5.7
Building & maint.	33.5	55.0	38.1	48.8	34.3	35.2	35.1	29.4	29.0	29.2
Total	1,538.9	2,542.9	2,321.1	2,461.6	1,525.7	1,678.1	1,663.9	1,326.0	1,339.8	1,334.4

Source: Department of Health (1991a)

Table A4.10

Expenditure by staff group (£), 1989–90

			Inner deprived	
	England	**London**	**Non-London**	**Total**
M&D	1,482,495,600	185,575,682	88,096,627	273,672,309
N&M	4,940,521,246	480,994,563	225,610,654	706,605,217
A&C	952,313,159	149,294,903	48,310,506	197,605,409
Ancillary	846,744,155	93,401,710	431,451,80	136,546,890
PAM	471,474,888	51,692,693	21,169,098	72,861,791
Scientific & prof.	197,698,878	32,463,856	10,973,682	43,437,538
Prof. & technical	358,575,652	48,098,379	26,417,478	74,515,857
Works	58,659,675	5,196,601	2,667,160	7,863,761
Building & maint.	201,311,360	21,774,138	10,369,030	32,143,168
Total	9,509,794,613	1,068,492,525	476,759,415	1,545,251,940

Source: Department of Health (1991a)

Table A4.11

Expenditure per capita resident population by staff group (£), 1989–90

		Inner deprived			Urban			High-status		
	England	**London**	**Non-London**	**Total**	**London**	**Non-London**	**Total**	**London**	**Non-London**	**Total**
M&D	31	69	57	64	34	34	34	29	25	26
N&M	104	179	145	166	119	107	108	102	95	98
A&C	20	56	31	47	24	20	20	20	17	18
Ancillary	18	35	28	32	17	19	19	15	15	15
PAM	10	19	14	17	10	10	10	9	9	9
Scientific & prof.	4	12	7	10	4	4	4	4	4	4
Prof. & technical	8	18	17	18	8	8	8	7	6	6
Works	1	2	2	2	1	1	1	1	1	1
Building & maint.	4	8	7	8	5	4	4	4	4	4
Total	199	397	306	364	223	208	210	190	175	181

Source: Department of Health (1991a)

Table A4.10 continued

Urban			High-status		
London	Non-London	Total	London	Non-London	Total
34,443,016	332,625,731	367,068,747	93,514,174	127,343,839	220,858,013
119,101,192	1,039,584,652	1,158,685,844	332,112,780	485,433,621	817,546,401
23,843,681	193,300,778	217,144,459	63,755,105	84,701,341	148,456,446
17,389,183	186,427,184	203,816,367	50,354,165	77,938,257	128,292,422
10,204,565	100,363,875	110,568,440	30,831,091	43,907,045	74,738,136
4,412,522	42,082,342	46,494,864	12,357,895	18,530,907	30,888,802
7,576,093	82,813,672	90,389,765	22,132,795	28,178,011	50,310,806
1,208,899	11,986,724	13,195,623	3,095,460	5,719,611	8,815,071
4,698,485	40,819,882	45,518,367	13,166,592	19,063,507	32,230,099
222,877,636	2,030,004,840	2,252,882,476	621,320,057	890,816,139	1,512,136,196

Table A4.12

Relative proportion of WTE staff by staff group, 1989–90

		Inner deprived			Urban			High-status		
	England	London	Non-London	Total	London	Non-London	Total	London	Non-London	Total
	%	%	%	%	%	%	%	%	%	%
M&D	5.9	7.9	7.4	7.7	6.1	6.1	6.1	6.0	5.5	5.7
N&M	54.1	48.3	51.8	49.5	55.7	53.3	53.5	56.6	56.1	56.3
A&C	13.4	16.3	14.7	15.7	15.4	12.9	13.1	14.1	13.2	13.6
Ancillary	13.6	13.1	14.6	13.6	10.6	14.5	14.1	10.6	12.7	11.9
PAM	4.9	4.9	3.3	4.4	4.5	4.8	4.8	5.0	5.1	5.1
Scientific & prof.	1.5	2.4	1.8	2.2	1.4	1.5	1.5	1.6	1.5	1.5
Prof. & technical	4.0	4.4	4.5	4.5	3.6	4.5	4.4	3.5	3.3	3.4
Works	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4
Building & maint.	2.2	2.2	1.6	2.0	2.2	2.1	2.1	2.2	2.2	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Health (1991a)

Table A4.13

Relative levels of expenditure by staff group, 1989–90

		Inner deprived			Urban			High-status		
	England	London	Non-London	Total	London	Non-London	Total	London	Non-London	Total
	%	%	%	%	%	%	%	%	%	%
M&D	15.6	17.4	18.5	17.7%	15.5	16.4	16.3	15.1	14.3	14.6
N&M	52.0	45.0	47.3	45.7	53.4	51.2	51.4	53.5	54.5	54.1
A&C	10.0	14.0	10.1	12.8	10.7	9.5	9.6	10.3	9.5	9.8
Ancillary	8.9	8.7	9.0	8.8	7.8	9.2	9.0	8.1	8.7	8.5
PAM	5.0	4.8	4.4	4.7	4.6	4.9	4.9	5.0	4.9	4.9
Scientific & prof.	2.1	3.0	2.3	2.8	2.0	2.1	2.1	2.0	2.1	2.0
Prof. & technical	3.8	4.5	5.5	4.8	3.4	4.1	4.0	3.6	3.2	3.3
Works	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.5	0.6	0.6
Building & maint.	2.1	2.0	2.2	2.1	2.1	2.0	2.0	2.1	2.1	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Health (1991a)

Appendix 5 Efficiency tables

Table A5.1

Throughput, Greater London, 1989–90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute
Riverside	47.0	19.4	47.2	40.2	94.6	59.2	97.1	43.8
Parkside	57.3	27.5	51.2	34.0	86.8	78.7	128.1	54.5
Hampstead	49.1	36.4	39.1	26.6	67.5	69.3	85.2	39.2
Bloomsbury	55.1	24.6	47.9	26.6	115.5	7756.3	88.4	46.0
Islington	73.9	19.9	37.8	32.4	122.5	365.0	128.7	51.3
City and Hackney	45.3	24.6	50.9	32.7	106.7	139.8	128.4	50.3
Tower Hamlets	54.0	32.9	55.6	41.7	87.4	66.0	126.5	52.2
Greenwich	68.5	29.2	37.2	38.7	0.0	37.3	64.9	43.4
West Lambeth	72.1	52.2	63.0	31.4	91.0	73.8	95.7	60.1
Camberwell	52.0	23.7	44.4	25.0	85.5	71.1	112.9	47.3
Lewisham and N. S'wark	59.9	31.8	41.2	30.0	92.1	96.8	134.5	45.2
Wandsworth	58.7	57.3	46.5	22.2	77.5	69.8	101.1	49.2
INNER LONDON	56.8	29.8	46.5	31.1	96.5	71.0	105.5	48.4
Barnet	73.8	26.2	37.0	37.0	95.0	106.6	110.5	53.7
Harrow	43.0	19.7	44.0	48.3	84.8	0.0	105.3	42.9
Hillingdon	66.5	42.7	45.5	29.3	0.0	50.4	101.9	49.9
Hounslow and Spelthorne	57.4	72.3	31.4	34.1	93.9	170.1	80.5	56.8
Ealing	59.5	152.9	32.9	24.1	0.0	0.0	97.1	53.9
Barking, Havering and Brentwood	50.8	26.6	39.9	33.0	115.4	56.9	114.0	41.3
Newham	65.5	35.4	43.5	45.4	0.0	0.0	152.9	53.2
Enfield	51.1	15.4	26.9	44.6	75.2	0.0	89.5	38.6
Haringey	64.6	22.6	34.9	31.6	0.0	72.6	127.0	48.0
Redbridge	61.3	24.6	31.0	32.2	0.0	36.8	116.3	42.6
Waltham Forest	50.0	32.6	37.4	24.3	69.5	62.4	102.2	45.8
Bexley	65.9	16.0	58.1	42.5	0.0	70.6	107.3	52.1
Bromley	51.3	20.5	24.3	30.9	56.3	378.4	93.1	40.0
Croydon	62.2	41.1	49.0	30.0	105.5	121.1	79.8	56.4
Kingston and Esher	82.9	31.3	42.9	26.6	79.3	85.9	116.3	55.6
Richmond, Twickenham and Roehampton	44.9	11.1	54.9	31.7	112.0	0.0	130.2	48.5
Merton and Sutton	75.3	22.9	53.3	31.4	110.2	51.9	93.2	53.3
OUTER LONDON	59.6	27.2	39.3	33.1	85.9	71.8	104.2	48.5
ENGLAND	62.5	28.6	45.1	35.9	92.5	65.5	90.8	50.2

Source: Department of Health (1991a)

Table A5.2

Throughput by status category, 1989–90

	General surgery			Paediatrics	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	56.7	60.8	Inner deprived	29.8	24.1
Urban	58.7	63.3	Urban	50.0	34.5
High-status	60.2	73.0	High-status	24.9	25.2
Total	58.2	65.5	Total	29.6	25.5
England	62.5		England	28.8	
	General medicine			**T&O**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	46.6	53.5	Inner deprived	31.3	34.7
Urban	34.9	42.3	Urban	30.9	37.0
High-status	40.7	44.6	High-status	33.9	40.0
Total	43.0	48.9	Total	32.1	36.9
England	45.1		England	35.9	
	ENT			**Ophthalmology**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	97.3	85.3	Inner deprived	75.7	76.7
Urban	80.8	97.6	Urban	86.6	62.8
High-status	88.7	92.9	High-status	73.9	72.2
Total	92.4	89.3	Total	76.7	72.8
England	92.5		England	66.2	
	Gynaecology			**All acute**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	113.4	90.2	Inner deprived	49.0	52.0
Urban	82.9	82.4	Urban	49.0	50.7
High-status	103.2	100.9	High-status	47.4	52.2
Total	104.8	92.7	Total	48.4	51.9
England	90.8		England	50.2	

Source: Department of Health (1991a)

Table A5.3

Average length of stay, Greater London, 1989–90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute
Riverside	6.0	4.5	7.8	9.4	3.1	4.7	2.7	6.5
Parkside	5.1	3.7	7.3	10.2	3.8	3.0	2.1	5.4
Hampstead	5.7	3.4	8.3	11.3	4.0	5.0	3.4	7.1
Bloomsbury	5.7	4.2	7.0	10.7	2.6	1.4	2.6	5.9
Islington	3.7	2.8	7.0	8.5	2.5	1.0	2.0	4.5
City and Hackney	7.0	6.9	8.3	10.9	3.4	2.7	2.6	6.6
Tower Hamlets	5.8	4.1	5.6	8.0	3.3	2.2	2.5	5.7
Greenwich	4.4	3.1	8.1	8.0	–	4.5	2.5	5.8
West Lambeth	4.8	4.1	7.0	11.6	3.0	3.7	2.2	5.6
Camberwell	6.6	5.6	6.1	12.8	4.0	4.4	3.2	5.8
Lewisham and N. S'wark	4.8	4.2	6.5	9.7	3.2	1.9	2.4	5.5
Wandsworth	5.4	3.1	7.3	13.8	3.3	3.3	2.7	6.0
INNER LONDON	5.4	4.1	7.1	10.2	3.1	3.7	2.5	5.9
Barnet	4.3	3.0	8.8	8.2	2.9	1.4	1.8	4.8
Harrow	5.6	2.6	7.0	8.0	2.6	–	3.0	5.5
Hillingdon	4.2	2.8	6.9	11.0	–	6.2	3.4	5.6
Hounslow and Spelthorne	5.0	3.6	9.3	9.3	3.0	1.6	2.9	5.2
Ealing	4.4	2.9	9.8	11.0	0.4	–	3.2	5.6
Barking, Havering and Brentwood	5.6	3.0	7.2	8.6	2.0	4.6	2.4	5.9
Newham	4.5	2.8	7.4	6.9	–	–	1.8	5.0
Enfield	5.3	3.8	11.6	7.3	3.1	–	2.9	6.3
Haringey	4.9	3.5	7.6	10.2	–	3.6	2.6	5.2
Redbridge	5.2	3.4	10.9	10.0	–	0.6	2.5	6.7
Waltham Forest	6.2	3.3	7.8	12.1	2.3	4.8	3.0	5.8
Bexley	4.2	3.6	6.0	7.0	–	4.1	2.4	4.7
Bromley	4.3	3.3	9.7	8.9	3.1	–	2.1	5.2
Croydon	4.7	2.9	6.9	10.3	2.7	1.9	2.0	5.0
Kingston and Esher	3.5	2.5	6.9	11.2	2.8	3.0	2.6	4.5
Richmond, Twickenham and Roehampton	6.8	3.9	5.4	10.9	1.1	–	2.7	4.6
Merton and Sutton	3.9	3.0	5.5	9.3	2.8	3.7	2.2	4.5
OUTER LONDON	4.8	3.1	7.7	9.3	2.6	3.1	2.5	5.3
ENGLAND	4.4	3.2	6.8	8.0	2.4	3.1	2.5	5.0

Source: Department of Health (1991a)

Table A5.4

Average length of stay by status category, 1989–90

	General surgery			Paediatrics	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	5.4	4.9	Inner deprived	4.0	3.7
Urban	5.0	4.3	Urban	3.2	3.2
High-status	4.6	4.2	High-status	3.0	2.8
Total	5.1	4.5	Total	3.5	3.3
England	4.4		England	3.2	
	General medicine			**T&O**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	7.1	6.5	Inner deprived	10.2	8.5
Urban	8.6	6.6	Urban	9.7	7.7
High-status	7.5	7.8	High-status	9.1	8.2
Total	7.4	7.0	Total	9.7	8.3
England	6.8		England	8.0	
	ENT			**Ophthalmology**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	3.1	2.6	Inner deprived	3.6	2.6
Urban	2.6	2.2	Urban	2.8	3.0
High-status	2.6	2.4	High-status	3.3	2.8
Total	2.9	2.5	Total	3.3	2.8
England	2.4		England	3.1	
	Gynaecology			**All acute**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	2.5	2.8	Inner deprived	5.8	5.0
Urban	2.9	2.5	Urban	5.6	4.8
High-status	2.4	2.4	High-status	5.3	5.1
Total	2.5	2.6	Total	5.6	5.0
England	2.5		England	5.0	

Source: Department of Health (1991a)

Table A5.5

Turnover interval, Greater London, 1989-90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute
Riverside	–	9.9	0.1	–	–	1.2	1.0	1.2
Parkside	1.0	3.0	1.0	0.7	0.5	1.8	1.1	1.2
Hampstead	1.4	0.2	0.4	3.2	0.9	0.4	0.9	1.7
Bloomsbury	1.5	2.3	2.1	3.2	0.6	–	1.2	1.8
Islington	0.9	2.8	1.4	2.1	0.1	–	0.8	1.2
City and Hackney	0.6	5.7	0.1	0.5	0.1	0.1	0.2	0.7
Tower Hamlets	0.9	5.3	0.8	0.7	0.8	–	0.2	1.0
Greenwich	0.6	3.9	0.3	0.7	–	4.3	2.6	1.4
West Lambeth	0.5	2.2	0.1	–	1.1	1.8	0.7	0.7
Camberwell	0.5	1.0	0.5	1.0	0.3	0.4	0.2	0.5
Lewisham and N. S'wark	0.8	0.7	0.6	2.2	0.5	1.8	–	1.2
Wandsworth	1.7	1.9	0.5	2.4	1.6	2.0	1.1	1.5
INNER LONDON	1.0	3.1	0.7	1.6	0.6	1.5	0.9	1.2
Barnet	0.2	5.9	0.6	1.0	1.5	2.1	0.7	1.2
Harrow	2.5	9.9	1.0	–	1.7	–	0.4	2.5
Hillingdon	1.4	4.5	1.0	2.0	–	1.4	1.0	1.7
Hounslow and Spelthorne	1.2	2.5	1.4	1.3	0.9	0.2	1.3	1.1
Ealing	0.8	0.3	0.2	2.4	–	–	0.7	0.7
Barking, Havering and Brentwood	1.6	3.0	1.3	2.1	1.1	1.7	0.7	1.6
Newham	0.9	3.0	0.8	0.9	–	–	0.4	1.1
Enfield	0.9	10.9	1.2	0.4	1.5	–	0.8	1.7
Haringey	0.2	5.9	1.9	1.0	–	1.4	0.9	1.4
Redbridge	0.4	2.5	0.6	1.2	–	9.2	0.6	0.7
Waltham Forest	0.9	1.9	1.0	2.8	3.0	0.6	0.3	1.2
Bexley	0.9	8.3	0.8	1.8	–	1.4	0.9	1.6
Bromley	2.4	8.5	3.1	2.0	3.3	–	1.5	2.8
Croydon	0.6	2.3	0.8	0.7	0.3	0.8	0.1	0.7
Kingston and Esher	0.7	5.4	1.4	2.5	1.8	1.2	0.9	1.6
Richmond, Twickenham and Roehampton	1.3	18.7	0.6	0.6	1.4	–	0.5	1.6
Merton and Sutton	0.8	8.4	1.3	2.4	0.5	3.4	1.6	2.0
OUTER LONDON	1.0	5.0	1.1	1.6	1.6	1.3	0.8	1.5
ENGLAND	1.3	5.8	1.4	2.2	1.5	2.3	1.3	1.9

Source: Department of Health (1991a)

Table A5.6

Turnover interval by status category, 1989–90

	General surgery			Paediatrics	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	0.9	1.2	Inner deprived	3.2	8.5
Urban	0.8	1.5	Urban	2.1	4.6
High-status	1.1	1.1	High-status	6.4	8.7
Total	1.0	1.2	Total	4.1	5.9
England	1.3		England	5.8	
	General medicine			**T&O**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	0.8	1.4	Inner deprived	1.4	2.4
Urban	0.7	1.6	Urban	1.6	2.4
High-status	1.1	1.2	High-status	1.4	1.7
Total	0.9	1.5	Total	1.5	2.2
England	1.4		England	2.2	
	ENT			**Ophthalmology**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	0.6	1.7	Inner deprived	1.3	2.1
Urban	2.0	1.5	Urban	0.9	2.7
High-status	1.4	1.7	High-status	1.7	2.2
Total	1.0	1.6	Total	1.4	2.5
England	1.5		England	2.3	
	Gynaecology			**All acute**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	0.7	1.3	Inner deprived	1.2	2.1
Urban	1.2	1.7	Urban	1.2	2.0
High-status	0.8	1.3	High-status	1.7	2.0
Total	0.8	1.3	Total	1.4	2.1
England	1.3		England	1.9	

Source: Department of Health (1991a)

Table A5.7

Percentage day cases, Greater London, 1989–90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute
Riverside	12.9	4.3	23.2	13.7	20.4	7.5	26.9	16.5
Parkside	16.8	5.1	28.0	9.0	5.2	6.0	40.4	22.7
Hampstead	13.4	5.6	9.6	10.6	0.1	1.1	18.1	10.1
Bloomsbury	3.2	0.3	8.4	2.3	8.8	4.7	14.3	7.2
Islington	30.8	–	12.8	5.0	1.8	–	25.8	19.1
City and Hackney	15.9	0.4	11.9	13.9	11.6	41.0	39.4	19.9
Tower Hamlets	11.6	0.1	25.3	8.9	12.8	–	28.4	17.6
Greenwich	34.2	1.2	9.9	16.1	–	0.7	5.1	16.3
West Lambeth	26.3	0.2	15.4	4.8	21.1	23.4	49.8	19.6
Camberwell	14.5	2.1	33.7	2.9	6.4	21.1	16.4	22.3
Lewisham and N. S'wark	30.0	4.9	20.6	7.4	8.2	14.9	27.4	18.7
Wandsworth	25.2	0.6	23.7	10.2	4.9	3.9	35.0	19.6
INNER LONDON	19.6	2.1	20.0	8.6	9.4	13.3	28.3	17.7
Barnet	28.0	0.2	9.5	16.4	25.4	42.1	36.0	23.2
Harrow	5.6	3.0	13.8	18.1	3.2	–	15.7	11.0
Hillingdon	27.9	0.1	13.1	10.6	–	0.4	24.2	16.0
Hounslow and Spelthorne	23.0	0.4	14.6	18.8	–	41.7	6.7	21.2
Ealing	37.5	–	14.5	25.8	76.7	–	21.4	20.9
Barking, Havering and Brentwood	22.1	–	16.4	9.4	19.3	0.1	32.9	17.5
Newham	33.1	–	13.5	18.9	56.2	–	45.4	24.4
Enfield	23.1	0.5	3.5	10.5	1.5	–	20.1	14.0
Haringey	32.3	0.3	18.3	2.9	–	15.5	25.8	23.6
Redbridge	31.8	0.7	7.6	37.6	–	61.8	31.0	24.9
Waltham Forest	14.7	2.2	8.2	7.4	13.8	12.8	26.5	13.2
Bexley	38.7	6.0	21.7	21.3	–	5.5	26.1	25.9
Bromley	30.4	4.7	3.1	24.8	10.6	96.5	33.3	23.1
Croydon	30.6	0.2	18.7	9.8	7.5	23.7	45.8	24.6
Kingston and Esher	39.7	–	23.9	7.2	–	3.4	28.6	23.7
Richmond, Twickenham and Roehampton	15.1	0.4	29.7	3.4	45.8	–	26.3	29.6
Merton and Sutton	34.0	1.0	41.3	13.9	11.5	5.2	34.8	29.3
OUTER LONDON	27.9	0.9	16.4	14.8	12.1	19.5	29.0	21.1
ENGLAND	23.2	2.5	14.5	14.7	15.9	18.9	24.0	18.2

Source: Department Health (1991a)

Table A5.8

Percentage day cases by status category, 1989–90

	General surgery	
	London	**Non-London**
Inner deprived	20	22
Urban	27	25
High-status	28	25
Total	24	23
England	23	

	Paediatrics	
	London	**Non-London**
Inner deprived	2	5
Urban	1	4
High-status	1	1
Total	1	3
England	3	

	General medicine	
	London	**Non-London**
Inner deprived	20	16
Urban	11	14
High-status	18	12
Total	18	14
England	15	

	T&O	
	London	**Non-London**
Inner deprived	8	14
Urban	16	15
High-status	15	17
Total	12	15
England	15	

	ENT	
	London	**Non-London**
Inner deprived	10	16
Urban	9	18
High-status	13	14
Total	11	15
England	16	

	Ophthalmology	
	London	**Non-London**
Inner deprived	14	24
Urban	28	22
High-status	14	15
Total	17	20
England	19	

	Gynaecology	
	London	**Non-London**
Inner deprived	31	22
Urban	15	22
High-status	31	26
Total	29	23
England	24	

	All acute	
	London	**Non-London**
Inner deprived	18	19
Urban	18	19
High-status	21	19
Total	19	19
England	18	

Source: Department of Health (1991a)

Table A5.9

Standardised average length of stay, Greater London, 1989–90

District	General surgery	Paed-iatrics	General medicine	T&O	ENT	Ophthal-mology	Gynae-cology	All acute
Riverside	127	116	129	109	124	144	110	120
Parkside	110	113	112	116	131	96	78	106
Hampstead	121	110	118	116	144	154	131	124
Bloomsbury	128	116	120	140	99	52	102	121
Islington	91	103	98	94	105	25	90	96
City and Hackney	152	162	117	126	131	112	112	129
Tower Hamlets	133	132	91	104	133	74	107	110
Greenwich	98	98	114	100	–	142	96	105
West Lambeth	118	166	111	140	113	117	101	121
Camberwell	141	172	108	151	158	148	132	131
Lewisham and N. S'wark	99	117	100	117	121	124	93	105
Wandsworth	118	119	110	145	127	102	113	108
INNER LONDON	119	127	110	121	119	121	102	115
Barnet	92	99	117	90	102	47	75	97
Harrow	115	94	96	96	114	–	119	100
Hillingdon	101	102	108	123	–	199	120	111
Hounslow and Spelthorne	101	88	115	110	120	51	107	100
Ealing	105	97	116	117	24	–	141	112
Barking, Havering and Brentwood	129	89	103	102	92	144	97	111
Newham	112	127	107	91	–	–	89	107
Enfield	127	95	138	90	134	–	110	115
Haringey	118	110	115	124	–	118	105	116
Redbridge	124	78	124	118	–	33	100	113
Waltham Forest	124	77	96	126	102	163	117	107
Bexley	98	131	93	91	–	123	94	102
Bromley	98	77	133	117	119	–	85	105
Croydon	120	63	100	101	104	60	71	99
Kingston and Esher	91	46	90	112	124	93	107	91
Richmond, Twickenham and Roehampton	135	75	101	126	49	–	107	107
Merton and Sutton	87	50	96	112	127	116	87	90
OUTER LONDON	109	88	108	108	108	98	100	105
ENGLAND	100	100	100	100	100	100	100	100

Source: Department of Health (1991a)

Table A5.10

Standardised average length of stay by status category, 1989–90

	General surgery			Paediatrics	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	120	106	Inner deprived	129	104
Urban	107	98	Urban	89	104
High-status	108	94	High-status	84	85
Total	114	101	Total	104	97
England	100		England	100	
	General medicine			**T&O**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	110	107	Inner deprived	121	108
Urban	109	100	Urban	112	99
High-status	107	104	High-status	105	99
Total	109	105	Total	114	103
England	100		England	100	
	ENT			**Ophthalmology**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	119	103	Inner deprived	119	87
Urban	110	94	Urban	92	100
High-status	109	103	High-status	102	90
Total	115	102	Total	108	90
England	100		England	100	
	Gynaecology			**All acute**	
	London	**Non-London**		**London**	**Non-London**
Inner deprived	102	109	Inner deprived	115	105
Urban	112	102	Urban	105	99
High-status	95	90	High-status	104	97
Total	101	101	Total	110	101
England	100		England	100	

Source: Department of Health (1991a)

Table A5.11

Consultant episodes, Greater London, 1989–90

District	Gen. surg.	Paed.	Gen. med.	T&O	ENT	Ophth.	Gynae.	All acute	Pop. 1989
Riverside	9,134	2,196	9,341	3,817	2,277	1,234	4,346	41,705	279,106
Parkside	14,238	4,719	18,548	4,800	2,675	2,728	9,879	64,367	374,677
Hampstead	4,964	1,177	6,881	1,734	912	950	3,439	24,589	109,988
Bloomsbury	12,283	2,070	12,653	6,432	8,229	85	6,552	53,436	127,103
Islington	7,379	1,944	6,157	2,442	1,413	1	4,543	26,055	169,479
City and Hackney	10,092	2,087	12,164	3,305	2,364	1,006	5,802	44,579	196,048
Tower Hamlets	8,641	2,337	11,226	3,084	1,655	34	4,075	37,772	163,857
Greenwich	10,624	3,247	8,545	3,843	0	693	4,115	35,053	213,448
West Lambeth	9,590	4,747	8,781	2,073	1,456	2,141	3,541	37,546	157,574
Camberwell	6,791	2,694	15,240	2,370	1,445	1,259	4,514	39,654	210,971
Lewisham and North Southwark	11,625	3,626	14,094	4,095	4,073	282	4,847	49,080	316,223
Wandsworth	9,937	3,089	10,435	2,470	1,985	1,168	5,437	44,632	187,532
INNER LONDON	115,299	33,935	134,064	40,465	28,483	11,581	61,090	498,467	2,506,006
Barnet	9,925	3,222	7,119	3,396	1,908	1,652	5,168	34,272	310,408
Harrow	4,435	2,436	7,468	2,870	2,477	0	2,689	24,542	193,837
Hillingdon	8,892	4,819	10,779	3,257	0	734	3,895	41,652	235,067
Hounslow and Spelthorne	8,366	2,697	6,958	3,897	2,519	2,765	4,625	36,554	281,253
Ealing	5,083	3,974	3,622	1,561	116	0	2,572	17,863	293,721
Barking, Havering and Brentwood	11,447	2,515	11,912	4,080	1,490	1,424	6,809	43,772	449,062
Newham	7,144	3,564	5,960	2,942	219	0	4,326	24,728	207,040
Enfield	5,690	1,514	4,057	2,937	1,295	0	2,438	18,937	262,074
Haringey	6,277	2,084	4,084	2,049	0	994	3,817	22,012	189,965
Redbridge	5,222	1,296	4,400	1,744	0	34	2,739	16,323	232,164
Waltham Forest	8,031	2,227	7,496	2,600	2,904	1,145	4,781	30,570	211,745
Bexley	3,555	1,342	3,711	2,072	1	1,246	2,510	16,155	220,008
Bromley	9,802	1,745	4,758	3,067	1,597	113	4,010	26,911	299,402
Croydon	8,241	1,834	9,136	2,577	2,230	1,387	3,786	30,406	317,366
Kingston and Esher	8,485	2,700	5,690	2,109	1,037	1,588	3,831	26,186	178,567
Richmond, Twickenham and Roehampton	2,673	511	3,649	1,615	993	0	2,079	17,792	232,441
Merton and Sutton	8,920	3,015	8,805	3,037	1,795	1,181	3,228	33,514	332,931
OUTER LONDON	122,189	41,495	109,604	45,810	20,581	14,263	63,302	462,189	4,447,051
ENGLAND	1,544,077	486,015	1,385,170	654,627	336,558	199,584	736,130	5,975,388	47,689,395

Source: Department of Health (1991a)

Table A5.12

Consultant episodes by status category, 1989–90

	General surgery	
	London	**Non-London**
Inner deprived	118,096	73,888
Urban	32,104	361,315
High-status	87,288	138,735
Total	237,488	573,938
England	1,544,077	

	General medicine	
	London	**Non-London**
Inner deprived	135,564	85,082
Urban	26,621	320,196
High-status	81,484	111,175
Total	243,668	516,453
England	1,385,170	

	ENT	
	London	**Non-London**
Inner deprived	28,702	19,329
Urban	5,539	82,969
High-status	14,823	24,323
Total	49,064	126,622
England	336,558	

	Gynaecology	
	London	**Non-London**
Inner deprived	65,118	34,709
Urban	16,092	152,409
High-status	43,183	70,950
Total	124,393	258,068
England	736,130	

	Paediatrics	
	London	**Non-London**
Inner deprived	36,336	24,770
Urban	12,146	132,831
High-status	26,948	41,351
Total	75,430	198,951
England	486,015	

	T&O	
	London	**Non-London**
Inner deprived	41,613	25,117
Urban	11,901	139,891
High-status	32,761	65,033
Total	86,276	230,041
England	654,627	

	Ophthalmology	
	London	**Non-London**
Inner deprived	11,882	20,264
Urban	4,603	49,225
High-status	9,359	11,893
Total	25,844	81,382
England	199,584	

	All acute	
	London	**Non-London**
Inner deprived	510,154	337,006
Urban	120,041	1,434,528
High-status	330,462	505,349
Total	960,656	2,276,883
England	5,975,388	

Source: Department of Health (1991a)

Table A5.13

Cost per episode, all acute specialties group, Greater London, 1989–90

District	£	District	£
Riverside	1,056	Barnet	589
Parkside	642	Harrow	651
Hampstead	1,002	Hillingdon	510
Bloomsbury	941	Hounslow and Spelthorne	607
Islington	630	Ealing	548
City and Hackney	910	Barking, Havering and Brentwood	592
Tower Hamlets	700	Newham	565
Greenwich	745	Enfield	690
West Lambeth	766	Haringey	619
Camberwell	605	Redbridge	708
Lewisham and North Southwark	783	Waltham Forest	564
Wandsworth	911	Bexley	424
Inner London	806	Bromley	555
		Croydon	494
		Kingston and Esher	428
		Richmond, Twickenham and Roehampton	655
		Merton and Sutton	571
		Outer London	570
		England	546

Source: Department of Health (1991a)

Table A5.14

Cost per episode by status category, all acute specialties group, 1989–90

	London £	Non-London £
Inner deprived	790	630
Urban	628	532
High-status	565	509
Total	693	542
England	546	

Source: Department of Health (1991a)

Appendix 6 Patient flow tables

Table A6.1 District of treatment for North West Thames residents, all acute specialties, 1988–89

	District of residence			
District of treatment	**Barnet**	**Harrow**	**Hillingdon**	**Hounslow & Spelthorne**
Barnet	18,880	4,350	46	6
Harrow	272	13,277	1,017	35
Hillingdon	417	2,536	22,573	528
Hounslow & Spelthorne	14	21	257	25,193
Ealing	2	31	451	580
Riverside	149	139	347	2,656
Parkside	599	1,380	430	362
Non-London NWT	111	401	264	14
TOTAL NWT	20,444	22,135	25,385	29,374
Barking, Havering & Brentwood	5	2	0	7
Enfield	814	9	3	2
Redbridge	3	2	1	2
Waltham Forest	12	1	0	1
Hampstead	5,945	182	54	64
Bloomsbury	2,106	2,119	337	428
Islington	1,539	14	3	2
City & Hackney	341	151	38	80
Newham	2	2	1	4
Tower Hamlets	67	45	15	21
Haringey	190	4	2	1
Non-London NET	30	8	10	9
TOTAL NET	11,054	2,539	464	621
Bexley	0	0	0	0
Bromley	1	2	0	2
Greenwich	2	2	1	5
West Lambeth	173	102	57	153
Camberwell	25	16	18	42
Lewisham & North Southwark	16	7	6	18
Non-London SET	11	14	23	13
TOTAL SET	228	143	105	233
Croydon	4	1	1	5
Kingston & Esher	0	0	4	144
Richmond, Twickenham & Roehampton	6	9	10	87
Merton & Sutton	4	0	11	33
Wandsworth	23	29	15	204
Non-London SWT	13	15	16	270
TOTAL SWT	50	54	57	743
Total London	31,611	24,433	25,698	30,665
Non-London Thames	165	438	313	306
Non-Thames	174	119	440	523
SHAs	900	580	786	1,808
ENGLAND	32,850	25,570	27,237	33,302

Source: Department of Health (1991b)

Table A6.1 continued

		District of residence		
Ealing	**Riverside**	**Parkside**	**Non-London NWT**	**Total NWT**
47	19	3,522	5,307	32,177
1,901	23	4,541	633	21,699
1,575	66	464	4,567	32,726
1,252	107	126	19	26,989
16,020	56	79	1	17,220
1,632	14,044	986	817	20,770
6,116	868	28,508	871	39,134
25	9	59	123,509	124,392
28,568	15,192	38,285	135,724	315,107
0	4	2	41	61
8	3	6	4,727	5,572
2	2	3	5	20
0	4	4	31	53
85	160	2,305	1,994	10,789
684	792	2,458	2,669	11,593
12	18	62	88	1,738
92	613	167	1,097	2,579
3	22	3	9	46
35	277	62	274	796
5	7	12	414	635
17	21	37	4,582	4,714
943	1,923	5,121	15,931	38,596
1	0	1	1	3
3	2	4	7	21
10	4	4	7	35
132	590	305	409	1,921
54	173	89	103	520
19	35	28	19	148
26	42	31	71	231
245	846	462	617	2,879
8	26	17	8	70
5	27	10	4	194
35	63	13	21	244
4	19	3	9	83
41	167	77	87	643
23	45	19	57	458
116	347	139	186	1,692
29,781	18,191	43,861	24,239	228,479
91	117	146	128,219	129,795
206	228	209	9,914	11,813
5,751	7,037	2,281	3,313	22,456
35,829	25,573	46,497	165,685	392,543

Table A6.2 District of treatment for North East Thames residents, all acute specialties, 1988–89

	District of residence					
District of treatment	**Barking**	**Enfield**	**Redbridge**	**Waltham Forest**	**Hamp-stead**	**Blooms-bury**
Barnet	6	353	7	14	59	24
Harrow	16	26	4	18	29	17
Hillingdon	20	45	6	11	32	20
Hounslow & Spelthorne	3	5	0	12	8	12
Ealing	0	0	0	0	4	4
Riverside	66	93	53	75	76	186
Parkside	69	90	36	44	605	1,141
Non-London NWT	17	43	16	14	9	6
TOTAL NWT	197	655	122	188	822	1,410
Barking, Havering & Brentwood	35,687	19	1,727	65	0	2
Enfield	10	14,292	14	63	2	6
Redbridge	4,967	7	10,667	135	1	1
Waltham Forest	632	53	6,640	17,417	4	5
Hampstead	126	761	140	182	7,404	2,034
Bloomsbury	769	1,021	590	576	1,304	21,187
Islington	18	466	9	56	464	339
City & Hackney	564	681	665	1,145	65	746
Newham	739	4	311	192	0	6
Tower Hamlets	2,429	114	1,792	620	30	46
Haringey	13	7,545	37	542	14	16
Non-London NET	2,150	162	595	418	9	21
TOTAL NET	48,104	25,125	23,187	21,411	9,297	24,409
Bexley	0	0	3	1	0	0
Bromley	3	1	2	1	1	1
Greenwich	16	2	10	12	1	5
West Lambeth	147	99	110	110	78	258
Camberwell	45	17	28	33	22	79
Lewisham & North Southwark	21	19	18	9	5	15
Non-London SET	47	21	25	26	4	17
TOTAL SET	279	159	196	192	111	375
Croydon	11	6	3	11	5	0
Kingston & Esher	0	3	0	1	0	4
Richmond, Twickenham & Roehampton	1	0	12	1	5	2
Merton & Sutton	3	4	4	0	5	7
Wandsworth	31	23	26	18	12	36
Non-London SWT	22	8	13	13	4	6
TOTAL SWT	68	44	58	44	31	55
Total London	46,412	25,749	22,914	21,364	10,235	26,199
Non-London Thames	2,236	234	649	471	26	50
Non-Thames	204	112	132	103	71	112
SHAs	1,149	925	852	669	277	1,383
ENGLAND	50,001	27,020	24,547	22,607	10,609	27,744

Source: Department of Health (1991b)

Table A6.2 continued

District of residence						
Islington	City & Hackney	Newham	Tower Hamlets	Haringey	Non-London NET	Total NET
25	23	10	5	106	22	654
9	10	11	7	14	65	226
14	14	4	8	26	39	239
2	6	9	2	7	7	73
0	6	0	3	1	0	18
107	80	70	116	105	315	1,342
129	72	35	33	109	70	2,433
9	9	8	4	17	155	307
295	220	147	178	385	673	5,292
6	10	122	26	13	2,112	39,789
20	21	10	1	368	171	14,978
2	11	275	28	2	452	16,548
29	108	989	392	46	1,702	28,017
810	248	69	40	1,177	212	13,203
3,393	1,386	472	482	2,141	1,490	34,811
9,120	942	29	37	5,172	27	16,679
3,139	15,800	1,266	1,016	741	2,371	28,199
7	46	19,061	461	7	212	21,046
130	1,296	3,577	18,651	126	2,506	31,317
132	387	44	29	7,959	93	16,811
42	129	237	140	69	128,386	132,358
16,830	20,384	26,151	21,303	17,821	139,734	393,756
1	0	0	1	1	5	12
0	3	2	4	1	13	32
4	17	26	22	6	20	141
163	101	109	89	116	362	1,742
28	162	30	28	37	144	653
8	13	19	25	18	33	203
21	24	23	11	15	83	317
225	320	209	180	194	660	3,100
1	3	6	6	6	22	80
3	1	1	3	3	1	20
6	1	2	0	2	15	47
2	3	6	1	15	20	70
19	24	23	11	27	76	326
9	13	3	3	11	40	145
40	45	41	24	64	174	688
17,309	20,794	26,277	21,527	18,352	12,577	269,709
81	175	271	158	112	128,664	133,127
95	101	77	75	109	3,882	5,073
8,417	936	1,178	1,270	734	3,572	21,362
25,902	22,006	27,803	23,030	19,307	148,695	429,271

Table A6.3 District of treatment for South East Thames residents, all acute specialties, 1988–89

	District of residence							
District of treatment	**Bexley**	**Bromley**	**Green-wich**	**West Lambeth**	**Camber-well**	**L'ham & N. S'wark**	**Non-London SET**	**Total SET**
Barnet	3	4	2	6	10	12	24	61
Harrow	18	10	15	6	10	5	81	145
Hillingdon	7	14	13	1	3	5	43	86
Hounslow & Spelthorne	1	1	6	12	11	8	9	48
Ealing	0	1	3	4	4	2	3	17
Riverside	40	167	85	476	219	147	602	1,736
Parkside	13	30	61	60	46	56	126	392
Non-London NWT	4	2	3	7	9	11	26	62
TOTAL NWT	86	229	188	572	312	246	914	2,547
Barking, H. & B.	5	9	7	7	6	20	39	93
Enfield	3	0	0	0	2	1	11	17
Redbridge	2	3	1	5	4	5	3	23
Waltham Forest	1	3	3	2	2	6	9	26
Hampstead	15	24	28	34	42	41	114	298
Bloomsbury	196	247	356	353	346	543	972	3,013
Islington	2	8	8	12	32	19	13	94
City & Hackney	107	205	90	55	96	193	645	1,391
Newham	6	0	10	2	6	12	26	62
Tower Hamlets	40	60	79	26	41	110	251	607
Haringey	3	2	5	8	5	9	8	40
Non-London NET	22	17	19	19	12	35	92	216
TOTAL NET	402	578	606	523	594	994	2,183	5,880
Bexley	9,983	3,657	2,029	0	24	202	1,644	17,539
Bromley	243	23,154	175	20	83	1,375	1,958	27,008
Greenwich	7,276	724	20,948	16	77	2,647	2,360	34,048
West Lambeth	245	481	392	12,549	2,717	2,508	1,762	20,654
Camberwell	306	1,387	444	2,210	18,548	3,311	1,328	27,534
Lewisham & N. S'wark	984	2,065	1,865	205	1,369	21,664	2,063	30,215
Non-London SET	3,726	297	234	45	106	186	219,762	224,356
TOTAL SET	22,763	31,765	26,087	15,045	22,924	31,893	230,877	381,354
Croydon	17	451	17	432	184	77	116	1,294
Kingston & Esher	0	1	5	6	7	0	8	27
Richmond, T. & R.	2	7	2	39	11	4	26	91
Merton & Sutton	2	63	8	91	32	24	107	327
Wandsworth	35	124	41	4,287	452	129	295	5,363
Non-London SWT	11	32	7	23	33	27	2,329	2,462
TOTAL SWT	67	678	80	4,878	719	261	2,881	9,564
Total London	19,555	32,902	26,698	20,924	24,389	33,135	14,646	172,249
Non-London Thames	3,763	348	263	94	160	259	222,209	227,096
Non-Thames	99	169	115	100	99	199	1,010	1,791
SHAs	337	721	368	423	437	465	3,006	5,757
ENGLAND	23,754	34,140	27,444	21,541	25,085	34,058	240,871	406,893

Source: Department of Health (1991b)

Table A6.4 District of treatment for South West Thames residents, all acute specialties, 1988–89

	District of residence						
District of treatment	**Croydon**	**Kingston & Esher**	**Richmond T. & R.**	**Merton & Sutton**	**Wands-worth**	**Non-London SWT**	**Total SWT**
Barnet	3	2	6	7	9	12	39
Harrow	20	14	17	8	9	78	146
Hillingdon	15	8	74	16	13	99	225
Hounslow & Spelthorne	4	126	6,025	18	11	1,423	7,607
Ealing	2	1	25	2	2	3	35
Riverside	258	268	1,901	297	1,232	552	4,508
Parkside	35	39	200	46	53	150	523
Non-London NWT	1	1	8	1	8	16	35
TOTAL NWT	338	459	8,256	395	1,337	2,333	13,118
Barking, H. & B.	4	2	1	6	2	17	32
Enfield	3	0	4	1	1	3	12
Redbridge	2	0	2	2	3	2	11
Waltham Forest	2	1	2	2	2	0	9
Hampstead	30	14	43	31	39	86	243
Bloomsbury	202	142	337	171	298	640	1,790
Islington	9	4	8	9	12	14	56
City & Hackney	89	52	91	71	64	438	805
Newham	3	2	3	3	2	3	16
Tower Hamlets	41	17	22	12	32	102	226
Haringey	3	2	0	1	3	2	11
Non-London NET	7	11	9	9	20	35	91
TOTAL NET	395	247	522	318	478	1,342	3,302
Bexley	14	0	1	3	1	6	25
Bromley	1,050	4	2	14	9	212	1,291
Greenwich	46	6	3	6	10	41	112
West Lambeth	483	168	286	384	3,145	953	5,419
Camberwell	1,427	47	57	205	228	727	2,691
Lewisham & N. S'wark	376	12	31	94	69	303	885
Non-London SET	130	20	27	79	24	6,370	6,650
TOTAL SET	3,526	257	407	785	3,486	8,612	17,073
Croydon	25,594	12	10	930	39	707	27,292
Kingston & Esher	11	19,661	3,007	1,236	39	960	24,914
Richmond, T. & R.	160	343	5,386	339	290	583	7,101
Merton & Sutton	2,228	501	121	22,717	104	2,879	28,550
Wandsworth	1,228	706	1,110	11,777	18,966	2,197	35,984
Non-London SWT	766	1,023	58	836	43	131,285	134,011
TOTAL SWT	29,987	22,246	9,692	37,835	19,481	138,611	257,852
Total London	33,342	22,154	18,775	38,408	24,687	13,192	150,558
Non-London Thames	904	1,055	102	925	95	137,706	140,787
Non-Thames	162	101	227	172	106	3,323	4,091
SHAs	1,174	898	1,342	3,607	813	3,672	11,506
ENGLAND	35,582	24,208	20,446	43,112	25,701	157,893	306,942

Source: Department of Health (1991b)

Table A6.5 District of residence by district of treatment, all acute specialties, 1988–89

District of treatment	District of residence				
	Unknown	Non-Thames	London	Non-London	Total
Barnet	1,105	119	27,566	5,484	34,155
Harrow	605	554	21,359	1,411	23,375
Hillingdon	6,722	2,061	28,528	6,809	42,059
Hounslow & Spelthorne	1,246	323	33,259	1,781	36,286
Ealing	3,339	24	17,283	31	20,653
Riverside	19,480	1,239	26,070	3,525	49,075
Parkside	14,786	872	41,265	2,089	58,140
Non-London NWT	8,025	2,026	1,090	125,732	134,847
TOTAL NWT	55,308	7,218	196,420	146,862	398,590
Barking, H. & B.	1,451	97	37,766	2,306	41,523
Enfield	241	64	15,667	4,976	20,884
Redbridge	554	40	16,140	502	17,196
Waltham Forest	1,358	25	26,363	1,767	29,488
Hampstead	1,663	619	22,127	3,025	26,815
Bloomsbury	1,171	2,427	45,436	8,198	54,805
Islington	8,635	94	18,425	236	27,296
City & Hackney	5,357	1,437	28,423	5,988	39,768
Newham	1,014	40	20,920	290	22,224
Tower Hamlets	482	736	29,813	3,869	34,164
Haringey	434	42	16,980	559	17,973
Non-London NET	3,482	1,133	4,284	134,228	141,994
TOTAL NET	25,842	6,754	282,344	165,944	474,130
Bexley	787	13	15,923	1,669	18,379
Bromley	309	17	26,162	2,207	28,678
Greenwich	1,699	55	31,908	2,483	36,090
West Lambeth	3,831	1,906	26,250	5,392	35,473
Camberwell	3,756	727	29,096	3,029	35,881
Lewisham & N. S'wark	18,885	85	29,033	2,503	50,421
Non-London SET	12,489	891	5,268	227,177	244,934
TOTAL SET	41,756	3,694	163,640	244,460	449,856
Croydon	1,875	73	27,883	926	30,684
Kingston & Esher	2,002	35	24,182	1,008	27,192
Richmond, T. & R.	7,495	157	6,838	802	15,135
Merton & Sutton	3,811	118	26,015	3,133	32,959
Wandsworth	4,962	666	39,661	3,321	47,944
Non-London SWT	19,575	4,467	3,365	138,178	161,118
TOTAL SWT	39,720	5,516	127,944	147,368	315,032
Total London	119,055	14,665	756,341	79,319	954,715
Non-London Thames	43,571	8,517	14,007	625,315	682,893
Non-Thames	231,598	4,017,508	4,639	4,035,637	4,271,874
SHAs	20,916	9,155	47,518	22,718	91,152
ENGLAND	415,140	4,049,845	822,505	4,762,989	6,000,634

Source: Department of Health (1991b)

GLOSSARY

A&E: the accident and emergency specialty.

Acute: a category of hospital treatment covering most specialties (*q.v.*). The main exclusions are the geriatric, psychiatric and maternity specialties. See Chapter 2 and Appendix 2.

All acute specialties group: an aggregate group of all the individual consultant specialties (*q.v.*) which we have included under the category of acute hospital services.

Available beds: the hospital beds on wards which are available for overnight use by patients. Available beds can be either occupied or unoccupied. We calculate available beds on the basis of bed-days, since a given bed is not always available throughout the year. See Chapter 3.

Average length of stay: the average length, in days, that a patient occupies a bed during one consultant episode (*q.v.*). See Chapter 4.

Average length of finished consultant episode: see *Average length of stay*.

Bed stock: the bed resources for patient care available to hospitals or larger administrative units, usually measured in terms of available beds (*q.v.*).

Case-mix: the overall character of hospital caseload in terms of type and severity of illness.

Consultant episode: the period a patient spends continuously under the care of a particular consultant during a single spell in a hospital or hospitals in the same district.

Day case: a patient who is electively admitted (*q.v.*) during the course of a day and receives care which is completed by the end of that day, i.e. does not occupy a bed overnight.

District General Manager (DGM): the chief executive of a District Health Authority (*q.v.*).

District Health Authority (DHA): a principal administrative unit in the National Health Service, typically responsible for providing or commissioning health services for about 250,000 people. See Chapter 2.

Elective admission: the planned admission of a patient to hospital for acute care. Sometimes called "cold" admission, and distinguished from emergency admissions.

ENT: the ear, nose and throat specialty, sometimes called otolaryngology.

Episode: see *Consultant episode*.

HCHS: see *Hospital and Community Health Services*.

HIPE: Hospital Inpatient Enquiry – this was a statistical investigation organised by the Department of Health and OPCS (*q.v.*) involving the collection and analysis of information about hospital inpatients, including their medical and demographic characteristics. With the advent of Körner (*q.v.*), it was discontinued.

Hospital and Community Health Services (HCHS): the budget from which all hospital and community health services are funded.

Körner: the Körner steering group made recommendations for the collection of health service information which were implemented from 1987, and made significant qualitative changes in the type of information available.

OPCS: the Office of Population Censuses and Surveys.

PAM: professions allied to medicine.

Patient flows: the movement of patients between areas (generally districts or regions, *q.v.*) for treatment. Flows can be considered in terms of *flows in*, a measure of the patients resident outside an area who go there for treatment, or *flows out*, a measure of the patients who reside in an area but go elsewhere for treatment. See Chapter 5.

Regional Health Authority (RHA): a principal administrative unit in the National Health Service. There are fourteen RHAs, each responsible for a number of District Health Authorities (*q.v.*). See Chapter 2.

Revenue expenditure: National Health Service expenditure covering the costs of services generated in the current year; distinguished from capital expenditure.

Special Health Authority (SHA): the eight hospitals or groups of hospitals which act as centres for postgraduate research and training. They are nearly all situated in central London and are responsible directly to the Department of Health. See Chapter 2.

Specialty: a category of care based broadly on type of illness; each specialty has consultant specialists who are responsible for the care of the patients admitted under them.

Status category: the name coined in this paper for the tripartite classification of London District Health Authorities (*q.v.*) based on statistical analysis of 1981 census variables to yield a comparative picture of the type of resident population.

T&O: the trauma and orthopaedics specialty.

Teaching hospital: a hospital in which the undergraduate teaching of medical students is undertaken. District Health Authorities (*q.v.*) containing teaching hospitals are said to be "teaching districts".

Throughput: the annual number of consultant episodes (*q.v.*) per available bed (*q.v.*). See Chapter 4.

Turnover interval: the average number of days a bed is unoccupied between the end of one consultant episode (*q.v.*) and the start of another. See Chapter 4.

Whole-time equivalent (WTE): a figure expressing the total number of staff, both full-time and part-time, in terms of the number of full-time staff to which they equate.

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The King's Fund Commission on the Future of London's Acute Health Services' terms of reference require it to "develop a broad vision of the pattern of acute services that would make sense for London in the coming decade and the early years of the next century". With this in mind, the Fund's London Acute Services Initiative has undertaken a wide-ranging programme of research and information gathering on the Commission's behalf, of which this working paper represents one part.

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