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Richard Meara

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

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Richard Meara worked for twenty years in the NHS, latterly as District General Manager in North West Surrey Health authority. He entered the NHS as a trainee after graduating from Oxford University and held a variety of posts at hospital and headquarters level. He gained a professional qualification through membership of the Institute of Health Services Management, and has lectured and written widely on health service subjects.

Two and a half years ago he left the NHS in order to set up his own management consultancy business. He took an MBA at Henley Management College and gained the marketing prize from the Worshipful Company of Marketors and the prize for the best papers in the final module of the course. He also gained the diploma of the Chartered Institute of Marketing and subsequently became a member of that Institute.

Since October 1990 he has been running Meara Management Consultancy, which provides general management consultancy services specialising in the health care market. He has built up a wide client base and has undertaken several estate-related assignments.

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Executive summary

London's Legacy: Aspects of the NHS estate in London examines the condition of the estate in the four Thames regions. It concentrates on the eleven central London districts.

The disposition of health services between the four Thames regions shows no common pattern, other than the concentration of teaching hospitals in central London. South West Thames region has one teaching hospital while North East Thames has five. There is also a high concentration of single specialty acute hospitals in central London, in particular postgraduate teaching hospitals. Rationalisation of acute services appears to have proceeded at a different pace in the four regions. Site values of the main London hospitals range from £10 million to £175 million.

Although rationalisation of services and sites has taken place over the past ten years, it has remained limited to district level re-arrangement of services in London. It has largely featured the closure of smaller low technology sites and acute outposts of teaching hospitals. More recently bolder rationalisation of services has begun, linked to substantial capital investment.

In terms of condition and the amount of money spent on investment in the estate, the Thames regions' performance shows wide variation. North West Thames has a simpler spread of acute services with fewer general hospital sites, and has fewer problems in backlog maintenance, statutory standards and energy terms than others. North East Thames has the greatest expenditure problems, and South East Thames appears to have furthest to go in reducing the number of sites from which it delivers acute care.

London's Legacy concludes that the demands of both acute and non-acute services outside London are such that the Thames regions cannot continue to maintain the number of central London hospitals that exist.

A new examination of the nature of acute hospital care and of the resulting physical provision is needed. London's hospitals are poorly equipped to meet the demands of the twenty-first century. Investment in primary and ambulatory care, in day care, and in low technology provision such as the patient hotel should be given high priority. This investment should be based on a strategic analysis of the health care market in London.

The arrival of a charge on capital only makes such planning more urgent. Site rationalisation will need to gather pace, and imaginative refurbishment and extension will be more cost effective than large-scale new-build. Unless this occurs, London's hospitals – with their

wide variation in property overhead costs – will find themselves ill equipped to compete with their suburban neighbours.

The paper examines in detail seven of the major hospital sites in central London: Guy's, St Bartholomew's, St George's, Charing Cross and Westminster, King's College, Greenwich, and the Royal Free. These provide a cross section of hospital sites in terms of their age and history, complexity, the extent of redevelopment undertaken, links to other sites and services, and teaching and non-teaching functions.

The general lessons drawn from these sites analyses are that foreseeable capital and revenue resources are unlikely to match the cost to bring all the sites to a reasonable physical condition; that most sites have grown haphazardly and would benefit from a radical examination of their real space needs through space-in-use studies; that new technology and clinical practice will change the shape of the hospital of the future and that London's hospitals have yet to face this major change. Site rationalisation must continue using both existing local plans for service change, and a new strategic approach determined on a North Thames and South Thames basis.

London's Legacy concludes by suggesting a means of addressing the issues that have been raised. In the past, estate and service rationalisation has occurred largely at two levels: level one has involved rationalisation of functions within one hospital site in order to improve functional links and the physical environment, while level two has been concerned with intra-district rationalisation of services. Where a third level has occurred it has been concerned with the disposition of regional specialties or run down of large long-stay institutions; and level four, pan-London rationalisation, has never happened.

Means must be found to unlock change across the capital. The key estate criteria that should be brought to bear on any such exercise are identified. The paper argues that the exercise as a whole should be driven primarily by service considerations. These must be identified clearly for London in the form of a strategic framework, which can then be interpreted in the context of a pan-Thames market analysis. This work should be tested against estate, service, teaching and 'political' criteria including the identification of any overriding constraints. What should emerge from such an exercise are several options for change. How those options should be debated and decided upon is another matter, but at least the argument can focus on a set of choices that are informed by facts and can bear scrutiny.

Abbreviations

AUV	alternative use value
COSHH	control of substances hazardous to health
CSSD	central sterile supply department
DGH	district general hospital
DHA	district health authority
DoH	Department of Health
FHSA	family health service authority
gj	gigajoules
GP	general practitioner
ITU	intensive therapy unit
NHS	National Health Service
OMV	open market value
RHA	regional health authority
SIFTR	service increment for teaching and research
SHA	special health authority
WIMS	Works Information Management System

CHAPTER 1

Background and introduction

Terms of reference

This working paper has been commissioned by the King's Fund London Acute Services Initiative as one of a series of papers on the health service in London. The purpose of the project is to provide a summary picture of the condition of the estate of London's acute hospitals. It attempts to bring together information on the estate from standard returns and locally obtained evidence. The main issues that the study has tried to address are as follows.

- How well maintained are the hospitals in London?
- What is the size of the backlog maintenance problem?
- What does the available evidence about functional suitability and use of space lead one to conclude?
- What steps are managers in the hospitals studied taking to try to deal with these problems?

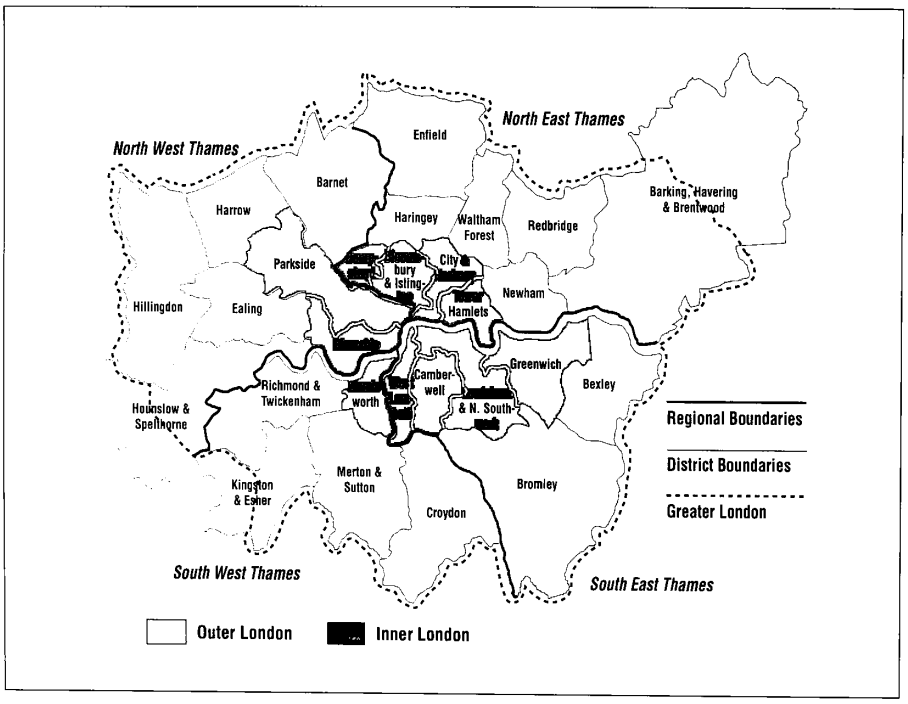
The Commission's remit is to consider acute services. Therefore for the purposes of this study non-acute hospitals have been excluded unless they are of specific relevance to the future of services on an acute site. Reference has, however, been made in the text to the other parts of the estate within a district, since this is clearly important in describing the context. District health authorities (DHAs) in pre-purchaser/provider days after all had responsibility for the totality of their NHS estate, and some of the major problems may have lain in non-acute rather than acute services.

It was agreed that in the time available it would not be possible to examine the estate in greater London. The estate to be studied was defined as inner London and covers the following health authorities:

- **North West Thames Region**
  Parkside
  Riverside
- **North East Thames Region**
  Bloomsbury and Islington
  Hampstead
  Tower Hamlets
  City and Hackney
- **South East Thames Region**
  Greenwich
  Lewisham and North Southwark
  Camberwell
  West Lambeth
- **South West Thames Region**
  Wandsworth

Figure 1.1

Map of inner London estate



The map (Figure 1.1) shows the boundary to this project in geographical terms.

A further exclusion has been any detailed examination of the postgraduate teaching hospitals, and any consideration of the non-NHS hospital estate in London. The postgraduates are an important omission since present and future plans to rationalise hospital services will have to take account of their existence. The condition of their estate will form one element in the complex decision-making process.

Methodology

The approach adopted has been to obtain both "hard" and "soft" information about the estate. The hard data have been drawn from the Körner estate returns together with additional information from local site surveys and appraisals. Some of the latter information dates from the late 1980s and care has had to be used in ensuring that it represents the up-to-date picture. Soft data have come from discussions with staff at regional, district and unit level and from observation of the sites themselves. Both are equally important in trying to paint an overall picture.

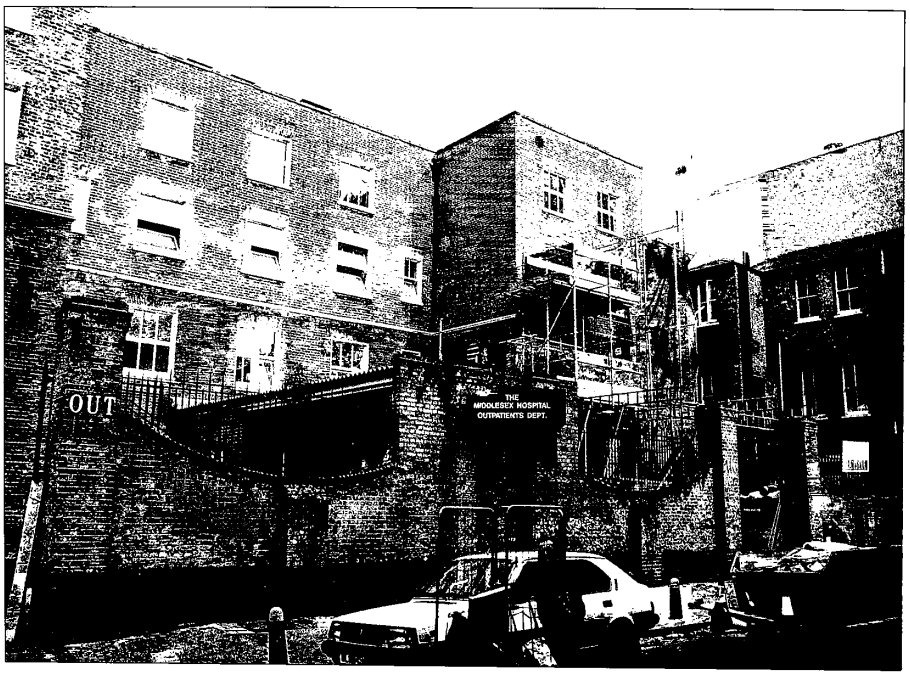
Initially, contact was made with the four Thames regions. Staff in either the planning or estates divisions were interviewed and the records of the estate held at regional level were studied. In most cases a great deal of useful information was obtained, and in particular policies on capital investment and programming were discussed. These meetings were followed by visits to individual districts or trusts. An

initial discussion was typically followed by a further visit or a tour of the site.

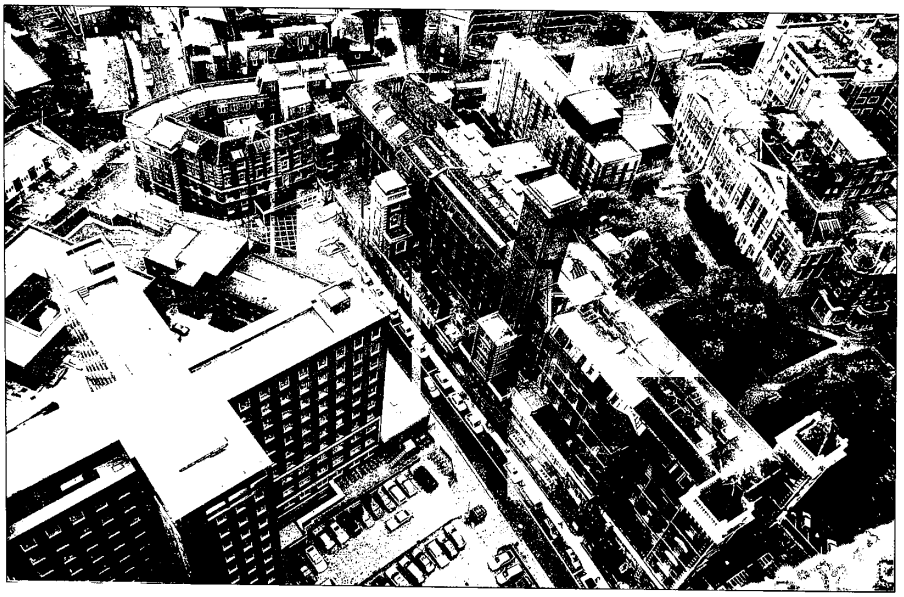
Contact was made with the Estates Agency at the Department of Health (DoH) and information from its database has been used in the compilation of this report.

The basic structure of this report is an overview of the estate and measures taken to rationalise it across the four Thames regions; followed by a detailed analysis of a selection of major hospital sites in central London. The intention throughout is to draw general lessons from particular circumstances.

The Middlesex Hospital outpatient department
Extensive refurbishment to this 19th century building, particularly to the interior, cannot hide its total unsuitability for its purpose.



Hunt's House, Guy's Hospital
This view from the top of Guy's Tower shows the potential for a "green lung" reaching deep into the Guy's Hospital site if Hunt's House, the outpatient department and adjacent buildings, were demolished. Improved traffic movement and car-parking would also be possible (see page 39).



CHAPTER 2

The estate and its importance

If there is one thing which sets the health service in England apart from the health services of other modern developed countries it is the nature and condition of the physical facilities from which care is provided. The most striking feature of a visit to hospitals in France, Germany, Sweden or the USA is the high quality of the buildings themselves. Only after leaving these shores to visit other countries' health services does the burden of the Victorian hospital-building legacy strike home. It is a legacy that the NHS is still living with.

Elsewhere in England it was the Victorians who built or adapted hospitals, sometimes as voluntary or cottage hospitals, sometimes as poor law infirmaries. Theirs was the first investment in buildings in which to care for and sometimes cure the sick. In London, the foundation of some of the leading hospitals ante-dates Queen Victoria's reign, sometimes by many hundreds of years. The Victorians added to a pre-existing legacy. Since the nineteenth century the next major building phase occurred after the Second World War with the inception of the National Health Service.

If a crude generalisation is possible, while many of the public and voluntary hospitals came into the NHS in 1948 in a poor state of repair, this was the result of inadequate maintenance. However, the exponential increase in the technical capabilities of the health service over the past 50 years has had an even greater impact on the estate, the demands put on it and the resources needed to maintain it. New diagnostic and treatment techniques, the demand for sterile conditions, the requirements of ward layout and design and the need to communicate information within hospitals has overshadowed the simple maintenance demands of yesteryear.

Hospitals are no longer relatively simple buildings: today they are among the most complex structures that architects and engineers are asked to design. This is difficult enough when starting from scratch on a greenfield site, but is doubly difficult when it is a question of adding a new wing on to an existing older building, or of gutting and refurbishing the older building itself.

It is only recently that the cost of running the estate has been calculated at all. The current average property overhead figure is £50 per square metre. The property overhead consists of:

- maintenance costs;
- heat, light and power costs;
- rent and rates;
- cleaning and security costs.

The introduction of the capital charging system has added a further cost to the property overhead – the cost of capital. The charge is made up of two elements: an interest element and a depreciation element. The average capital charge figure is currently estimated at £60 per square metre. Thus the cost of simply bringing into use and running an empty hospital building is £110 per square metre.

The health service has never considered its estate in these terms before. Not only was capital a free good but no one in the service saw himself or herself as having any responsibility for the space consumed by health care activities. The estate management culture was one of expansion and territorial acquisition, not of doing all one could to reduce an expensive overhead.

The drive to rationalise services and to dispose of surplus sites or property which gathered pace in the mid- to late 1980s gave some emphasis to reducing space used. This was usually in the context of whole sites and buildings, and management's objectives were largely to gain capital receipts in order to reinvest in new buildings and services. The conscious aim was rarely to ensure a smaller but better maintained estate.

Estate managers were installing information systems using the Works Information Management System (WIMS); the Körner Inquiry identified standard data sets for the estate as for clinical services. Thus it gradually became possible by the late 1980s to compare data about the estate between hospitals and regions and to calculate trends.

While age of buildings is not in itself an absolute criterion of their appropriateness for modern health care, it does give some general impression of their nature. Obvious features may be a solidity of construction able to withstand adaptation; in parts more spacious than subsequent standards allowed, but with a narrow span in key areas such as wards which creates difficulty; inadequate provision for lifts or for the installation of the volume of engineering services now needed; and, in the case of psychiatric or mental handicap hospitals, the design and siting is almost certain to be inappropriate for modern approaches to the care of these groups of people.

The last detailed survey of the age of hospital stock was made in 1972. At that date the percentage distribution of property across the NHS as a whole by age was calculated as:

Pre-1850	6 per cent
1851–99	27 per cent
1900–18	16 per cent
1919–47	22 per cent
1948–72	23 per cent
Age not known	6 per cent

It is likely that since then there will have been a reduction in the Victorian stock and an increase in the post-1948 stock. Nevertheless, it confirms a picture of a high proportion of old and ageing buildings across the NHS as a whole. This is a picture fully reflected in London's health care estate.

CHAPTER 3

A pan-regional perspective

Although south-east England is divided into four Thames regions their geographical spread, population served, configuration of districts and number of teaching hospitals shows little common pattern. What is common is the concentration of acute services in central London, largely around the teaching hospitals, the diminishing central London population, and the growth of population in the suburbs and shire counties that surround the capital.

A summary of the sites from which different types of service are provided is set out in Table 3.1. Although there may be some inaccuracy in the allocation of hospitals to types because of different interpretation of definitions, the list indicates the differences between regions. The following points should be noted.

- The random distribution of teaching hospitals, from one in SW Thames to five in NE Thames.
- If the assumption can be made that expensive, high-technology-dependent acute services are best provided from a single site district general hospital (DGH) – unless a very large population is being served – there is a massive agenda of rationalisation, capital investment and site disposal still to be faced.
- The high concentration of single specialty acute hospitals in London, most of which are situated in one district (Bloomsbury and Islington). Market pressures will make many of these hospitals candidates for relocation on to larger acute sites.
- The variety in numbers of acute facilities per district. NW Thames appears to have a relatively logical distribution in that there is one district general hospital (or at most two) serving most districts; whereas SE Thames appears to have much further to go down the rationalisation road.
- The fact that priority care hospital sites overshadow the acute hospital sites. In SW Thames 75 per cent of the total hospital sites are non-acute. While the types of these sites vary very widely from small cottage hospitals and mental handicap units to large psychiatric hospitals, it puts into perspective the estate management demands of the acute sector.
- Within the inner London teaching hospital setting there is wide variation in the site complexity of the districts. Camberwell and Tower Hamlets districts contain three main sites only:

Table 3.1

Thames hospital site analysis

Region	Teaching hospitals	General acute hospitals (acute/partly acute)	Specialist acute hospitals (e.g. eyes, children, rehabilitation)	Other hospitals/units (geriatric, YPD, psychiatric, mental handicap)	Total
NW Thames					
Barnet	-	2	1	7	
Ealing	-	1	-	2	
Harrow		1	-	3	
Hillingdon	-	2	1	2	
Hounslow and Spelthorne	-	2	-	3	
East Hertfordshire	-	2	-	7	
North Hertfordshire	-	1	-	2	
NW Hertfordshire	-	2	-	3	
SW Hertfordshire	-	1	1	2	
North Bedfordshire	-	1	-	4	
South Bedfordshire	-	1	-	2	
Parkside	1	2	2	7	
Riverside	2	-	1	7	
Grand total	**3**	**18**	**6**	**51**	**78**
NE Thames					
Enfield	-	2	-	2	
Haringey	-	2	-	-	
Waltham Forest	-	2	-	5	
Newham	-	1	-	7	
Redbridge	-	2	-	3	
Barking, Havering and Brentwood	-	3	-	6	
Basildon and Thurrock	-	2	1	5	
Southend	-	2	-	2	
West Essex	-	3	-	6	
Mid Essex	-	2	1	4	
North East Essex	-	3	1	6	
Hampstead	1	-	1	1	
Bloomsbury and Islington	2	2	1	3	
City and Hackney	1	1	1	4	
Tower Hamlets	1	1	-	1	
Grand total	**5**	**28**	**17**	**55**	**105**

Source: The Hospitals and Health Services Year Book 1991

Region	Teaching hospitals	General acute hospitals (acute/partly acute)	Specialist acute hospitals (e.g. eyes, children, rehabilitation)	Other hospitals/units (geriatric, YPD, psychiatric, mental handicap)	Total
SE Thames					
Greenwich	-	2	-	4	
Bexley	-	1	-	2	
Bromley	-	3	-	6	
Dartford and Gravesham	-	3	-	4	
Medway	-	5	1	3	
Tunbridge Wells	-	2	2	9	
Maidstone	-	1	1	1	
Canterbury and Thanet	-	2	1	11	
South East Kent	-	4	-	5	
Hastings	-	5	-	4	
Eastbourne	-	2	-	5	
Brighton	-	2	3	6	
West Lambeth	1	-	-	3	
Camberwell	1	1	-	1	
Lewisham and Southwark	1	3	-	2	
Grand total	**3**	**36**	**8**	**66**	**113**
SW Thames					
Richmond, Twickenham and Roehampton	-	1	-	3	
Merton and Sutton	-	1	1	8	
Kingston and Esher	-	2	-	5	
Croydon	-	2	-	4	
Mid Surrey	-	1	-	7	
NW Surrey	-	1	-	8	
East Surrey	-	2	-	7	
SW Surrey	-	2	-	6	
W Surrey/NE Hants	-	1	-	5	
Mid Downs	-	3	1	5	
Worthing	-	2	-	5	
Chichester	-	1	-	6	
Wandsworth	1	1	1	5	
Grand total	**1**	**20**	**3**	**74**	**98**

- King's College Hospital, Dulwich Hospital and St Giles Hospital in Camberwell; and the Royal London, Mile End and St Clement's in Tower Hamlets. At the other extreme Bloomsbury and Islington contains 19 sites and Parkside 12. (Both of these are the product of merged districts.)

Site values of the inner London districts are shown in Table 3.2. More limited information is available for the postgraduate special health authorities (SHAs), as shown in Table 3.3. It is possible to analyse further the information for the districts on a site specific basis, as shown in Table 3.4.

Another way to consider the typology of acute facilities within central London is to divide the sites between teaching, specialist and general functions as shown in Figure 3.1. Geriatric and psychiatric hospitals have been omitted from the above analysis.

Figure 3.1 emphasises the concentration of acute facilities in overall terms; the concentration of specialist teaching hospitals, and in

Table 3.2

Site values of inner London hospital districts

District	Land areas (hectares)	Existing use value (£ million)	Open market value (£ million)
Riverside	59	463	286
Parkside	105	408	258
Hampstead	14	110	55
Bloomsbury and Islington	28	560	346
City and Hackney	21	405	285
Tower Hamlets	12	138	40
Greenwich	31	119	42
West Lambeth	13	152	162
Camberwell	11	77	22
Lewisham and N Southwark	12	207	185
Wandsworth	73	263	131

Source: KE84 Part 1 returns

Table 3.3

Site values of postgraduate SHAs

District	Land area (hectares)	Existing use value (£ million)	Open market value (£ million)
Hospitals for Sick Children	4	94.5	60.0
Hospitals for Nervous Diseases	4	62.0	51.0
Bethlem and Maudsley	103	81.3	42.0
Royal Marsden	1	37.0	35.0
Eastman Dental	1	34.0	19.0
Moorfields Eye	n/a	n/a	n/a
Royal Brompton National Health	5	60.0	37.0
Hammersmith and Queen Charlotte's	n/a	n/a	n/a

Table 3.4

Hospital site specific values

Hospital	Existing use value (£ million)	Open market value (£ million)
Charing Cross	162	67
West London	30	12
St Mary Abbott's	30	15
Westminster Hospital	104	73
Westminster Children's	11	11
St Mary's	122	90
St Charles	15	22
Samaritan	20	9
Western Ophthalmic	7.5	3
Central Middlesex	94	50
Royal Free	86	37
Middlesex (main site only)	64	29
UCH (cruciform site only)	29	9.5
Middlesex outpatient department	14.5	11.5
Royal Northern	28.5	14
Elizabeth Garrett Anderson	19	13
St Bartholomew's	n/a	n/a
Homerton	n/a	n/a
The Royal London	n/a	n/a
Greenwich	51	5
The Brook	35	17
The Memorial	13	7
St Thomas'	122	150
King's College	41.5	10
Dulwich North	16	5
Guy's	161	126-175
Lewisham	46	10
St George's	113	32.5
Bolingbroke	8	1.6
Atkinson Morley	24.5	29.5

Note: In some cases, only a sample of the hospitals in the district/trust have been listed

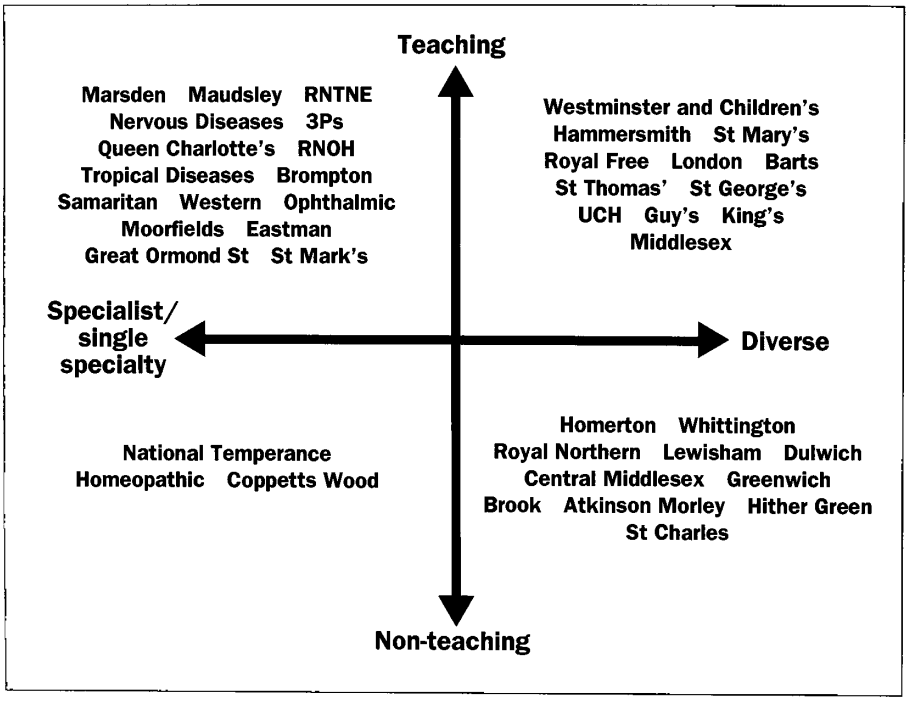
Source: KE84 returns 1991

particular of single specialty hospitals, many of which operate from more than one site.

The picture is not a static one. Hospitals are closing and new facilities are opening every year. To date all this rationalisation activity has taken place within each district, largely in terms of concentrating more acute services on to the main teaching hospital sites. This has

Figure 3.1

Division of sites between teaching, specialist and general functions



usually been accompanied by capital investment: thus St Mary's W9 closed, linked to the major redevelopment of St Mary's W2; St Stephen's closed to enable the construction of the new Westminster and Chelsea Hospital. Smaller scale measures involved the absorption of Paddington Green Children's Hospital into St Mary's W2; the closure of St John's Hospital and the dispersal of the inpatient service; the inpatient service at the Royal National Orthopaedic Hospital moving in part to the Middlesex Hospital and in part to the Stanmore branch; the absorption of the Hospital for Women Soho into the Middlesex and UCH hospitals; the closure of inpatient facilities at the Elizabeth Garrett Anderson Hospital.

New moves are being planned as this report is being written. What is noteworthy about the overall pattern of rationalisation in London is that:

- it has been limited in scope, being driven at district level with no existence of any wider regional blueprint;
- it began in the late 1970s and early 1980s with closures of low technology facilities such as geriatric units or convalescent facilities;
- the next phase involved the closure of acute outposts to the teaching hospitals;
- almost every closure provoked immense opposition from local interests, from politicians, or from staff concerned;
- many of the changes have stopped short of complete closure and

disposal of the sites; their use has sometimes changed to a non-acute function, or their outpatient function has been retained;

- the most recent phase has been characterised by bolder rationalisation, but it is a package which is tied to very large capital investment as a prerequisite to unlock the change.

New acquisitions as well as disposals are taking place within the Thames regions. The most recently available national returns indicate that the four Thames regions acquired 1551 (100 sq. metres) of new building area from a national total of 2944, at the same time as disposing of 12,753 out of a national total of 16,316. This represented an acquisition cost of £26 million (51 per cent of the total national figure) and a cumulative capital receipt of £78 million, or 48 per cent of the national receipts. While the size of these figures is partly justified by the high land costs in the South East, it does not reflect a picture of overprovided regions divesting themselves of assets and downsizing in order to face market pressures in leaner shape (*source:* KE81 and KE83: National Summary 1989–90).

None of this is to deny the reduction in estate holdings that has occurred over the past five years in many of the London districts. One estate manager presented his authority in 1990 with the picture shown in Figure 3.2.

This indicates substantial reduction in building volume and thus in maintenance costs and energy consumption over a three-year period. Similar progress can be found in most districts.

An overall picture of the estate stock in the Thames regions is set out in Table 3.5. The main points to note from the analysis are shown in Box 3.1.

In terms of expenditure on maintenance of the estate (as opposed to capital expenditure on new buildings or upgrading) only SE Thames

Figure 3.2

Change in estate 1986–88

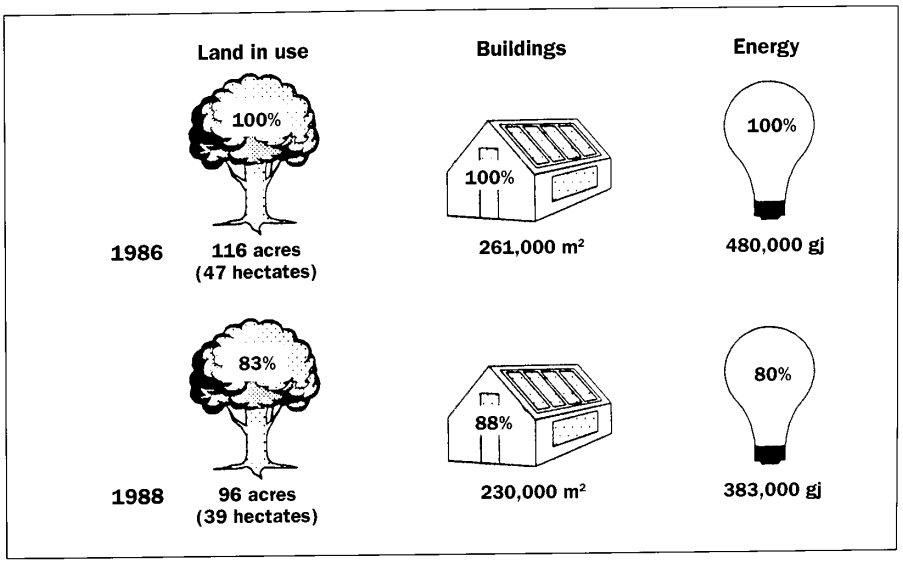


Table 3.5

Estate stock in the Thames regions

Region	Building area (100 m2)	Existing use value (£'000s)	Open market value (£'000s)	Replacement cost (£'000s)
NW Thames	17,191	1,690,056	1,539,535	940,823
NE Thames	29,485	3,178,917	1,166,743	2,737,936
SE Thames	19,561	1,472,637	831,224	784,395
SW Thames	18,744	1,512,366	838,419	1,793,970
Total	84,981	7,853,976	4,375,821	6,257,124
National total	279,491	19,886,731	9,032,182	20,820,012
Thames regions as % of national total	30.0	39.5	49.0	30.0

Source: Central return KE84 1989–90. Date printed: Feb. '91 (see notes overleaf). (NW Thames returns were only 92 per cent complete and SE Thames 87 per cent. The others were 100 per cent. Overall returns 96 per cent complete)

Notes:

Building area: this is the overall internal area within an envelope of the external walls, floors and roof.

Existing use value: this is the value of the entire property in its present state with its use restricted within the confines of the existing buildings. This value is determined between the district valuer and estate surveyor.

Open market value: this is the market value of the entire property based on the benefit of any planning permission to develop for residential, commercial or other use, and is based on a professional valuation.

Replacement cost: this is based on the CAPRICODE cost allowances for the provision of the same number of functional units. An average allowance for on-costs or abnormals has been added and sums for fees and equipment included.

performed significantly worse than other regions. If total expenditure on maintenance is related to the size of building area the picture shown in Box 3.2 emerges.

SE Thames, therefore, appears to spend the lowest amount per 100 m^2 on the maintenance of its estate. Such a marked difference between it and other regions cannot simply be explained by the fact that it has the lowest percentage of property in physical condition C and D and in statutory standards C and D of the four Thames regions.

Expenditure on both capital works schemes and maintenance is shown for all the English regions in Figure 3.3.

Information on estate condition for the postgraduate hospitals is less complete but Tables 3.6 and 3.7 provide data on the physical condition of the estate and on statutory standards.

This chapter has attempted to describe the context in which the hospitals in central London exist. The most important points to make from the overall picture are the following:

- the obvious fact that central London acute hospital provision is only one element of the estate which the Thames regions operate;
- the very different positions from which each of the Thames regions starts in terms of estate size, numbers of hospitals, extent of rationalisation that has already taken place, and amount of ongoing investment in the estate;

Physical condition					Statutory and safety					Energy performance				
A %	B %	C %	D %	Cost to B (£'000s)	A %	B %	C %	D %	Cost to B (£'000s)	A %	B %	C %	D %	Cost to B (£'000s)
1	58	40	1	67,408	1	48	50	1	7,826	2	40	53	5	9,544
8	56	33	3	212,427	-	-	-	-	61,007	10	54	32	4	66,840
4	73	21	2	122,805	6	70	22	2	18,518	8	46	44	3	5,906
2	48	48	2	164,932	1	43	49	7	31,189	1	45	40	14	14,361
-	-	-	-	567,572	-	-	-	-	118,540	-	-	-	-	96,651
6	58	33	3	1,534,915	6	54	36	4	283,719	6	43	43	8	206,005
				37.0					42.0					47.0

Property Appraisals: the property appraisal survey consists of five elements – physical condition, functional suitability, space utilisation, compliance with safety and statutory requirements and energy usage. The interpretation of the ranking is as follows:

A denotes that the element is as new and can be expected to perform adequately to its full normal life.

B means that the element is sound, operationally safe and exhibits only minor deterioration.

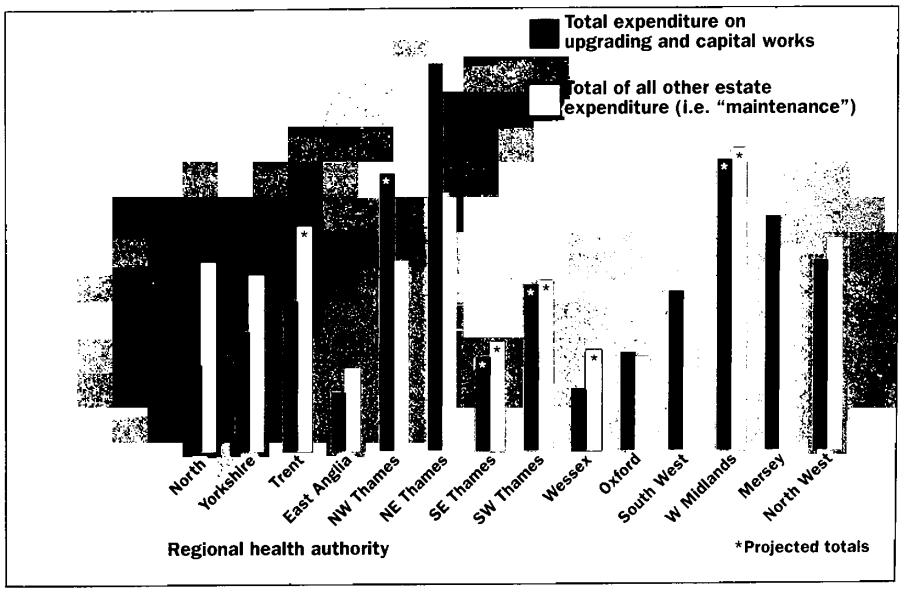
C indicates that the element is operational but major repair or replacement will be needed soon.

D category covers those elements where there is a serious risk of imminent breakdown.

- the apparent better performance by one region as against others; NW Thames seems to have a simpler spread of acute services, and to have fewer problems in backlog, statutory standards and energy terms than others; NE Thames has the greatest expenditure problems, and SE

Figure 3.3

Estate management central returns 1989–90: national summary



Source: Estate Finance, form KE85

Box 3.1

ESTATE STOCK IN THE THAMES REGIONS

- **There is wide disparity between Thames regions. NE Thames has the largest building area to maintain and thus the cost to bring its estate to condition B is substantially in excess of its neighbours in total. However, in ratio terms, SW Thames performs worst. The cost per 100 m² to bring the estate to condition B is as follows:**

SW Thames	£8,800
NE Thames	£7,200
SE Thames	£6,300
NW Thames	£3,900

- **NE Thames, of the four Thames regions, has the biggest problem to meet statutory standards. It must spend twice the national average figure to meet condition B, as follows.**

Cost per 100 m² to meet condition B in statutory and safety standards

NE Thames	£2,069
SW Thames	£1,663
SE Thames	£900
NW Thames	£455
National average	£1,015

- **In energy performance NE Thames is again the worst:**

Cost per 100 m² to meet condition B in energy performance

NE Thames	£2,267
SW Thames	£766
NW Thames	£555
SE Thames	£302
National average	£737

- **The four Thames regions contain 30 per cent of the total building area nationwide, and 30 per cent of the total cost to replace existing buildings. The higher value of buildings is shown by the 49 per cent of total open market value (OMV) deriving from the Thames regions. This might be expected, but the Thames regions all perform worse than expected against the national picture in terms of physical condition and, in particular, statutory standards and energy performance.**

Box 3.2

EXPENDITURE PER 100 m² ON MAINTENANCE

NW Thames	£1,291
SW Thames	£1,287
NW Thames	£1,286
SE Thames	£738
Other regions:	
Lowest spend (N Western)	£791
Highest spend (W Midlands)	£1,605
National average spend	£1,201

Source: National Summary KE85 1989–90. Issued Feb. 1991

Thames appears to have furthest to go in reducing the numbers of sites from which it delivers acute care;

- overall, the number of single specialty hospitals which provide acute care alongside the teaching and general hospitals indicates scope for rationalisation and absorption, although the means by which this can be achieved is becoming more difficult as the internal market develops.

A general conclusion might be that in view of the region-wide demands to improve the estate which have been described, Thames regions cannot afford to maintain the number of central London hospitals that currently exist. The need to improve the estate outside London, in both acute and "priority care" areas, and to meet the capital requirements arising from population growth cannot be reconciled with the maintenance of a large and costly estate in central London.

Table 3.6

Postgraduate SHAs: physical condition

Hospitals	Physical condition category (%)				Cost to B (£'000s)	Overall functional suitability	Overall space utilisation suitability
	A	B	C	D			
Maudsley	10	33	57	0	4,400	C	3
Bethlem	0	38	58	4	4,050	C	3
Royal Marsden Fulham Road	1	22	77	0	1,758	B	3
Royal Marsden Belmont, Sutton	1	15	83	1	1,142	B	3
Eastman Dental	0	0	100	0	330	C	3
Royal Brompton and National Heart	38	26	36	0	14,999	B	3
National Hospital for Nervous Diseases	-	-	-	-	-	-	-
Hospital for Sick Children	0	15	80	5	-	-	-
Moorfields Eye	-	-	-	-	-	-	-
Hammersmith and Queen Charlotte's	-	-	-	-	-	-	-

Note: A dash indicates figures for 1990–91 not available

Source: KE84 Part 2 1990–91

Table 3.7

Postgraduate SHAs: statutory requirements

Hospitals	Statutory and safety req. Category (%)				Cost to B (£'000s)	Energy performance Category (%)				Cost to B (£'000s)
	A	B	C	D		A	B	C	D	
Maudsley	0	13	87	0	1,500	0	37	63	0	70
Bethlem	1	10	87	2	1,350	0	29	34	37	50
Royal Marsden Fulham Road	0	70	30	0	150	0	0	100	0	25
Royal Marsden Belmont, Sutton	0	0	100	0	180	0	0	100	0	275
Eastman Dental	0	0	100	0	550	0	0	100	0	11
Royal Brompton and National Heart	38	30	31	1	4,287	38	13	29	20	3,083
National Hospital for Nervous Diseases	-	-	-	-	-	-	-	-	-	-
Hospital for Sick Children	-	-	-	-	-	-	-	-	-	-
Moorfields Eye	-	-	-	-	-	-	-	-	-	-
Hammersmith and Queen Charlotte's	-	-	-	-	-	-	-	-	-	-

Note: A dash indicates information for 1990–91 not available

Source: KE84 Part 2 1990–91

CHAPTER 4

Capital management policy

Tackling the estate problems of London's hospitals will mean doing two things.

1 Rationalisation of services on to fewer sites, which will reduce the maintenance burden overall and will generate capital for reinvestment.

2 Investing in the estate that has a longer term future, both by major upgrading and by eradicating over time the backlog of maintenance expenditure and by some new building.

It is, therefore, important to examine the capital investment policies and plans of the Thames regions.

All of the regions have reviewed their existing major capital programmes over the past two years, largely because of a dramatic decline in income from capital sales caused by the slump in property values. The present position is one of almost complete standstill, with only schemes already in progress being continued. The key factors for the future appear to be the following.

- Proceeds from land sales will in future be regarded as the property of the provider.
- The transfer of revenue to capital at regional level to bolster the capital programme, because of lower land sales income and because of the importance of capital as an enabler of strategic change.
- The new role for region of "banker" for major investment purposes because of the introduction of capital charges, and a similar role for districts in relation to block/minor capital.
- The uncertainty over future allocation processes, both in relation to a purchasing district which has significant contracts with several providers; and in relation to the position of trusts as their number grows and it becomes more difficult for the centre to deal directly with over 150.
- The trend towards raising the limit for minor capital schemes, and the need to ensure that the actual minor capital allocations are increased in line.
- The danger that with the raising of the minor capital limits medium sized schemes (one of which might consume the whole of a district's or unit's block allocation) will be trapped in no-man's-land.

Most regions have taken the opportunity to use the hiatus in their

programmes to take a fundamental look at what they want their capital investment to achieve in the 1990s. With hindsight, regional officers have admitted that changes were taking place in how health services were delivered which had not previously been recognised, as the juggernaut of major capital investment ploughed on. These were recognised as follows.

- Advances in medical practice meant that the balance of services would move towards an emphasis on local health care centres and GP provision with fewer more specialised acute hospitals.
- Improvement in acute sector productivity, including a substantial potential increase in day case surgery, implied that the region's hospitals contained too many beds for the forecast caseload.
- The advent of capital charges and the introduction of the internal market highlighted the very high costs incurred by inefficient use of the estate.
- The existing estate carried a high level of backlog maintenance and many of the buildings were unsuitable for the practice of modern medicine.
- Medical staffing policy would render the existing site configuration untenable.

In light of these changes regional officers, usually in discussion with staff at district level, re-examined the criteria they used to decide priorities for limited funds. Although trusts were moving out of this formal allocation process at the time these discussions were taking place, it is known that their capacity to invest through their external financing limit was almost wholly based upon the status their schemes had in the regional capital programme. It seems reasonable to assume that regions will continue to have influence upon the content of trust investment programmes.

North East Thames has identified the following criteria:

1 Service and productivity gain – bids must demonstrate achievement of the new regional standards for acute sector productivity (ASP2); these standards include throughput for all major acute specialties, day case levels, maternity services and the use of operating departments.

2 Improvement in the quality of service and buildings – this will include the extent to which each bid achieves the following service objectives:

(a) consistent with national guidelines on models of care and operational policies;

(b) the most appropriate pattern of care for each patient group;

(c) evidence of clinical and medical audit along with quality assurance initiatives.

3 Estate management – this will include the extent to which the bid:

(a) supports the region's acute rationalisation strategy on main acute sites;

(b) is a "stand alone" project and does not depend on future phases to achieve its objective;

(c) achieves improved estate utilisation;

(d) is considered to be good value for money;

(e) achieves a reduction in revenue costs and ensures an appropriate use of staff skills.

4 Deliverability – the degree of support for the bid within the district and the ability to commission the scheme quickly. (*Source:* NETRHA agenda paper July 1991)

SE Thames has formulated a new policy which gives greater emphasis to meeting strategic service need. It moves away from the previous policy of giving priority to schemes which were revenue saving or released land. The region is aware that it has not taken a strategic look at investment in its part of London.

The region has stated that one of its key tasks is to give strategic direction. It identifies this as the reduction of ineffective and unnecessary treatments; management integration of primary and hospital care systems; and increased investment in appropriate facilities (a more capital intensive and less labour intensive service).

It has recently published strategic guidelines for acute services in the region which envisage the following:

- a network of 50-bed GP-run local hospitals;
- elective resource centres for short-stay patients mainly from waiting lists;
- acute hospitals to serve 300,000 people, backed by necessary specialties and accident and emergency;
- polyclinics/primary care facilities and GP surgery units.

This is not seen as a blueprint but as a framework within which commissioning authorities can work, taking account of local circumstances.

Again, it is important to note that regional capital allocations have to cope with the continued development of priority services and the rundown of old institutions, and also with information technology and scientific programmes. Both latter programmes are likely to face increasing pressure as providers press to acquire the technology for managing the internal market, and to keep abreast of medical technology. With the potential increase in block allocations to providers, it is likely that these allocations will not be regionally managed for much longer. The third group of schemes have related to community and primary care services, often aimed at improving services for elderly people. With the change of accountability of family health service authorities (FHSAs) to regional health authorities (RHAs) and the

Box 4.1

THE SCOPE OF CROWN IMMUNITY

An added burden on capital programmes has been the removal of Crown immunity. This has wider implications than might be imagined, and covers the following areas:

- **COSHH Regulations**
- **Clean Air Act 1956**
- **Control of Pollution Act 1974**
- **Electricity Act 1944**
- **Electricity at Work Act 1989**
- **Fire Precaution Acts 1971**
- **Building Regulations 1985**
- **Asbestos Regulations 1969**
- **Health and Safety at Work Act 1974**
- **Food and Hygiene Acts**

development of primary care strategies, increased investment in these service groups may be needed.

One of the Thames regions has undertaken an estimate of the costs of meeting the standards required following the removal of Crown immunity (see Box 4.1). The total for the region was £99 million, £47 million of which related to the two London teaching districts. Although a similar exercise has not been undertaken in other regions in the same way, it is likely that the figure for the central London hospitals will be over £300 million.

Analysis of the spread of potential expenditure between headings in one region is shown in the pie diagrams (Figure 4.1).

The actual impact that the change in status will have on demand for capital has yet to be fully tested. Some estate managers in London believe that there is a danger of overemphasising the effect of removing Crown immunity. They point out that environmental health officers have visited NHS premises by agreement for many years. They may have been lenient on the health service, but they have always had the power to serve a closure notice and occasionally have done so when faced with an unresponsive NHS management.

Estate managers have known of the existence of all the regulations listed above and should have allowed for them in their estimates of backlog and capital requirements. Nevertheless, it is undoubtedly the case that the greater awareness of the health services responsibilities by managers will increase the demands on hard pressed revenue and capital budgets.

The picture that emerges is of the Thames regions using the dramatic change in capital receipts and the disastrous impact that has had on programmes, to undertake a radical rethink. It is likely that capital will be used in a more targeted way, with greater emphasis on overall downsizing of the acute estate linked with strategic investment in key sites.

The increasing demands on the programme, however, from statutory requirements, the demands of priority care strategies and the continued need to invest in information technology and in medical

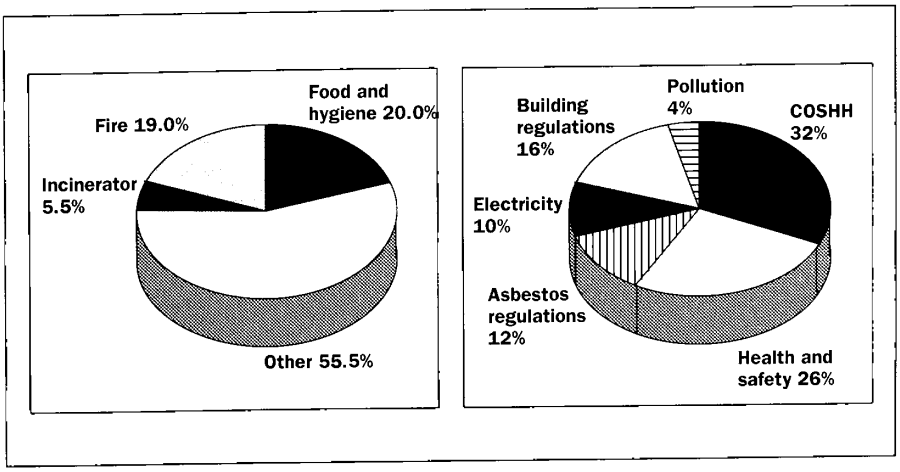


Figure 4.1

Potential expenditure on Crown immunity in one region

technology only serve to emphasise the difficult task of setting priorities.

It remains the case that major capital investment must be service led. The importance some regions are placing on achieving higher utilisation levels in terms of beds, day units and operating theatres is a belated recognition that there is a continuing danger of building overprovision into the system.

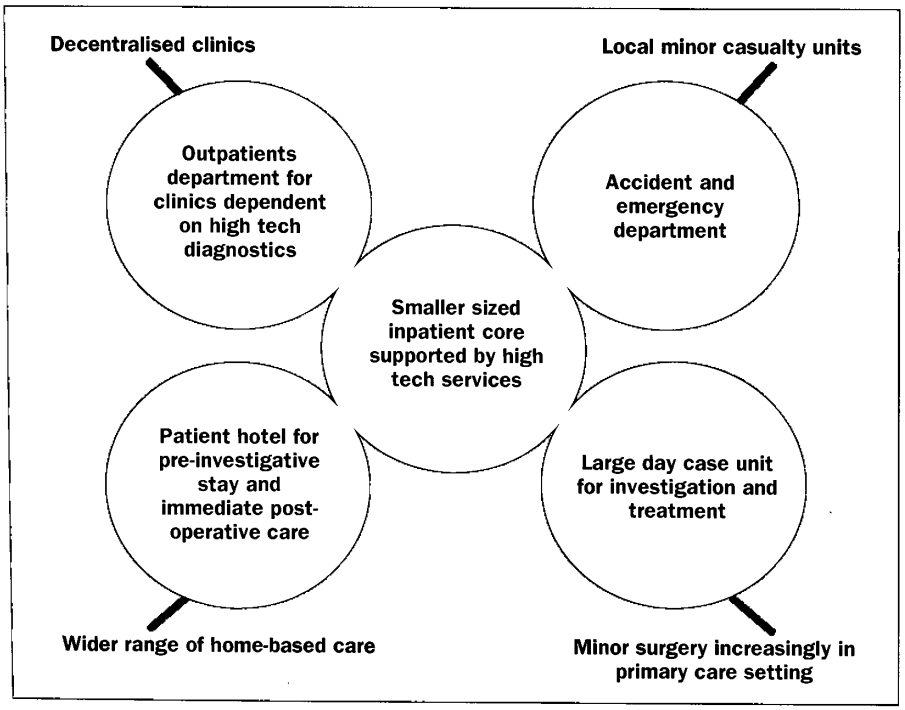
Much more radical targets on utilisation, that take a longer term view of changes in clinical practice, could lead to significant reductions in the need for physical provision. This, linked with more widespread adoption of the lessons learnt in the DoH Estates Agency sponsored Estate Utilisation Projects (where big increases in beds have been found to be possible within existing building envelopes) could lead to a substantially smaller estate in London.

SE Thames attempt at a strategic framework for acute services is interesting, since it sets out a clear model against which local provision and existing plans can be tested. The acute hospital of the future, whether it has a teaching role or not, may be a very different creature from the old fashioned accretions that typify central London today. One attempt to describe the acute hospital of the twenty-first century is shown schematically in Figure 4.2.

The least clear element of the jigsaw is the means to achieve these new patterns of care, given the greater independence of providers as many become trusts, and the less co-ordinated levers of the market as purchasers choose in different ways to allocate resources through contracts.

Figure 4.2

The acute hospital of the twenty-first century



CHAPTER 5

The impact of capital charges

A recent King's Fund Institute/NAHAT research paper on capital and capital charges has examined the impact of a charge on capital on allocation policies*. They conclude that the NHS is still a long way from achieving an ideal or optimum use of its capital stock. They suggest that a major difficulty is that the NHS, unlike the private sector, has lacked the hard monetary incentives which would encourage greater efficiency in the use of capital. The introduction of a price on owning and acquiring capital should, however, make more explicit the trade-offs between capital and revenue and capital and labour.

The aim of the introduction of capital charges is a behavioural one – it is to change the behaviour of those who work in the health service towards the historic free good of "capital". Higher capital charges will be incurred with new building; lowest charges will derive from old unmodernised buildings nearing the end of their life. In between will be refurbished buildings. Experience in one London teaching hospital is that refurbishment schemes range in cost from £600 to £800 per square metre, while new buildings cost from £1100 to £1500 per square metre, the average difference being £600 per square metre. Major capital projects involving new building are in hand at Guy's and the new Westminster and Chelsea Hospitals, and further major new developments are planned at St Mary's, Middlesex/UCH and King's College. In addition, large refurbishment schemes are in hand in many other sites. It seems unlikely that a rigorous business case, which showed the effect of some of these developments on market prices, has been followed through. In any case, some of the schemes were planned and begun before the introduction of the internal market and capital charges.

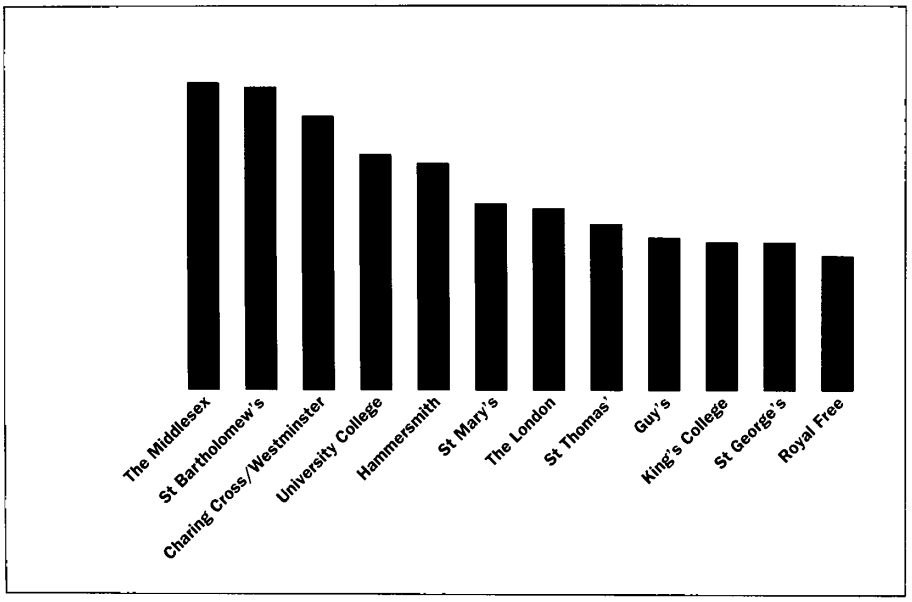
Studies undertaken for the Inner London Chairmen's Group on the effects of the capital charging system on central London hospitals confirm that the majority of teaching hospitals will have higher costs per average patient stay than competitor hospitals (Interim Report, March 1991). This was recognised by the DoH Capital Charges Unit in Update 90/7 which acknowledged that "from April 1991 Teaching Hospitals will incur higher than average capital charges due to their use of larger buildings and a greater level of high technology equipment than a similar bedded non teaching hospital".

This discrepancy has been partly addressed by enhancing the service increment for teaching and research (SIFTR) from 1991–92. RHAs have been required to increase SIFTR by the percentage that capital charges add to their costs. This is funded from regions' own

*R. Robinson and J. Appleby (1991), *Cutting through the Confusion: A review of capital and capital charges*. NAHAT Research Paper 4.

Figure 5.1

Capital charges per patient stay (1991) in London teaching hospitals

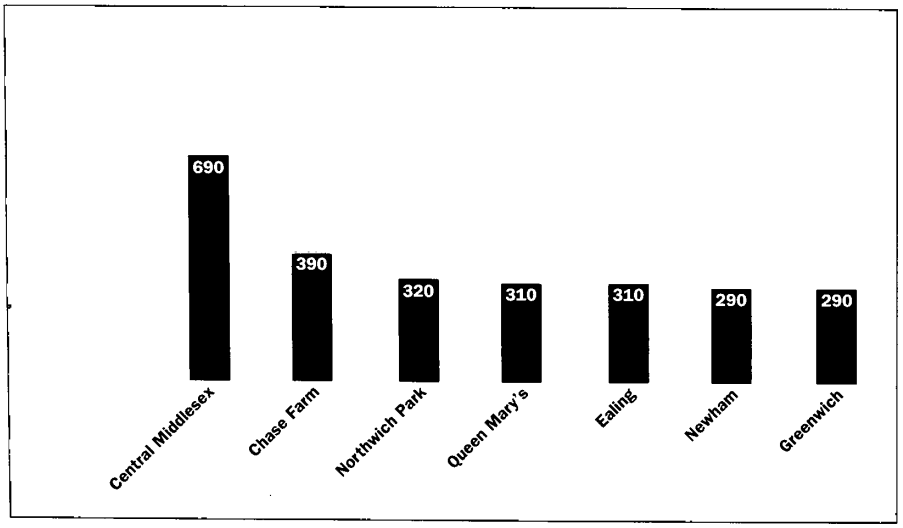


resources. The future of this approach is under review. Teaching hospitals doubt whether the uplift will be adequate to fully cover extra costs.

Figure 5.1 shows the capital charges per patient stay, and indicates the striking variation between London teaching hospitals. This could relate to differences in patient throughput, building volume and condition of the estate stock. It implies that some teaching hospitals will experience competition from neighbouring teaching hospitals as well as from non-teaching competitors. A similar graph for a range of non-teaching hospitals (Figure 5.2) shows in most cases a substantial difference.

Figure 5.2

Capital charges per patient stay (1991) in London non-teaching hospitals

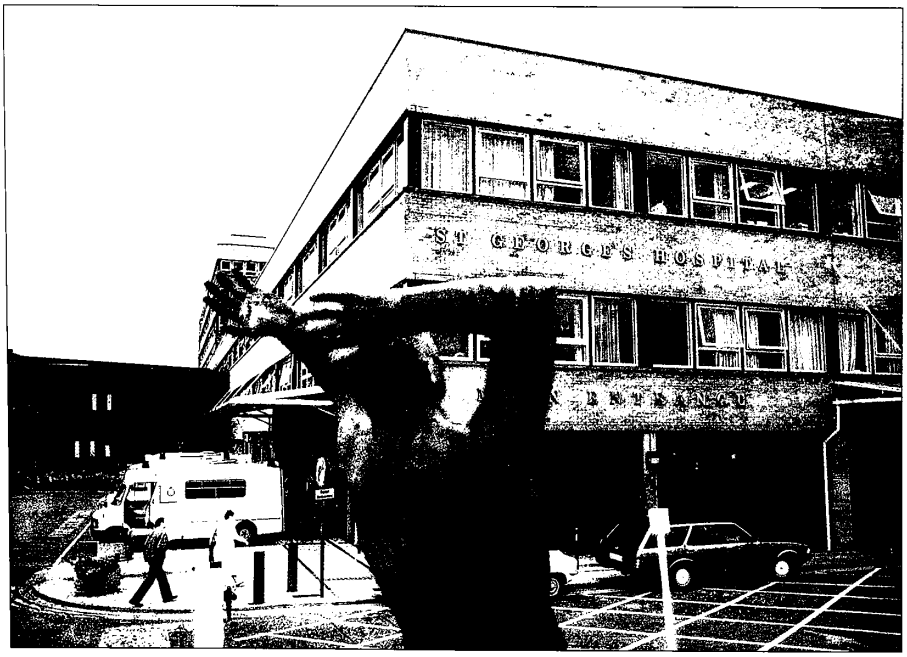


Source: ILCG

It is possible to plot competitor hospitals on a map against each teaching hospital, and in almost every case the non-teaching competitors are able to offer cheaper episodes of care. Thus the high cost teaching hospitals will face dual competition from lower cost neighbouring teaching hospitals for the more complex work and for tertiary referrals; and from competitor non-teaching hospitals for the routine cases.

The steps that are being taken will make some of London's major hospitals, already with costs twice as high as some of their competitors, even less competitive. At an individual hospital level, however, each piece of investment can be justified as remedying grossly deficient buildings or functional relationships. It is an almost inescapable conclusion that the existing problems which capital charges pose, and the new discipline they will impose on investment decisions, cannot be resolved at individual hospital, trust or district level. A wider examination is necessary and much more fundamental rationalisation of service has to be contemplated, in order to allow the hospitals that remain to operate in a high quality physical environment and offering services at rates that purchasers will be prepared to pay.

St George's Hospital
These two photographs show the contrast on this site. Major new building in three phases was unable to replace all the nineteenth century wards, which now house the cardiothoracic service. A radical space utilisation study might allow their incorporation into the modern "envelope" (see page 47).



CHAPTER 6

Hospital sites

This chapter examines in detail the characteristics of some of the key hospital sites in central London. Their functional content is described, the ages of the buildings, overall functional suitability and functional relationships. Other sites that are part of the acute services of the unit or trust are also considered. More general lessons from these site analyses will be drawn in the concluding chapter. The sample of sites has been selected to ensure:

- coverage of all Thames regions;
- inclusion of simple as well as complex sites;
- inclusion of historic sites and redeveloped sites;
- inclusion of teaching and non-teaching sites;
- inclusion of sites facing major change.

Guy's Hospital

The oldest part of the hospital is Guy's House which dates from 1725. The hospital originally developed southwards from Guy's House into the 1850 block called Hunt's House. Since then the hospital has grown first eastwards to where Shepherd's House and the Medical School now are, and after the Second World War westwards. The trustees began buying properties to the right of Great Maze Pond, the road which runs through the centre of the site.

The first phase of new building was New Guy's House, completed in 1963. Phase II was the Guy's Tower, which is in fact two towers, a user tower and a communications tower. This was built in 1974 and is 30 storeys high. Phase III is currently under construction, called Philip Harris House, and is due to open in 1993. The design, which is slightly larger than originally conceived, wraps around the tower on six floors. This represents the completion of the 1950s vision for the hospital and must be one of the few such grand plans to succeed.

Thus the centre of gravity of the hospital has moved from the east to the west of the site. With the opening of Philip Harris House all remaining clinical services for patients will transfer from the eastern side of the site. What will remain on that side will be administrative accommodation, staff accommodation, some support service departments and the medical school.

Hunt's House, which contains four storeys of wards, kitchens and research accommodation, will move into Philip Harris House, as will

the 1891 outpatients block which will then be demolished. An improved main vehicular entrance with a roundabout will take its place. These steps will considerably improve the functional relationships of departments on the site, and will enable traffic flow to be improved (see Figure 6.1).

The site, however, remains a highly congested and constricted city site, bounded on all sides by busy roads. Parking of cars poses major problems. Clinical services will still be located in at least four main blocks – the Tower, Philip Harris House, New Guy's House and the Newcomen Centre. In addition the Bloomfield Centre (paediatrics) and Nuffield House (private patients) will remain as separate buildings. The accident and emergency department is located in the centre of the site on the ground floor of New Guy's House. This is a less than ideal location since ambulances have to come in to the middle of a congested site. The intention is to extend the department at the back end of the Phase III contract.

Under consideration at the moment is the future of Hunt's House. It is a building on which little major maintenance has been carried out because of its known limited life. If it were demolished it would create further open space at the centre of the hospital and might allow space to be provided for extra car parking. If its demolition could be linked to that of Nuffield House and the Bloomfield Centre a major opportunity would exist for improved landscaping, traffic flow and parking.

Nevertheless there appear to be serious suggestions that Hunt's House should be retained. Philip Harris House is already bigger in volume terms than the departments it will replace. Most of the building is replacing what already exists, although some new laboratory and

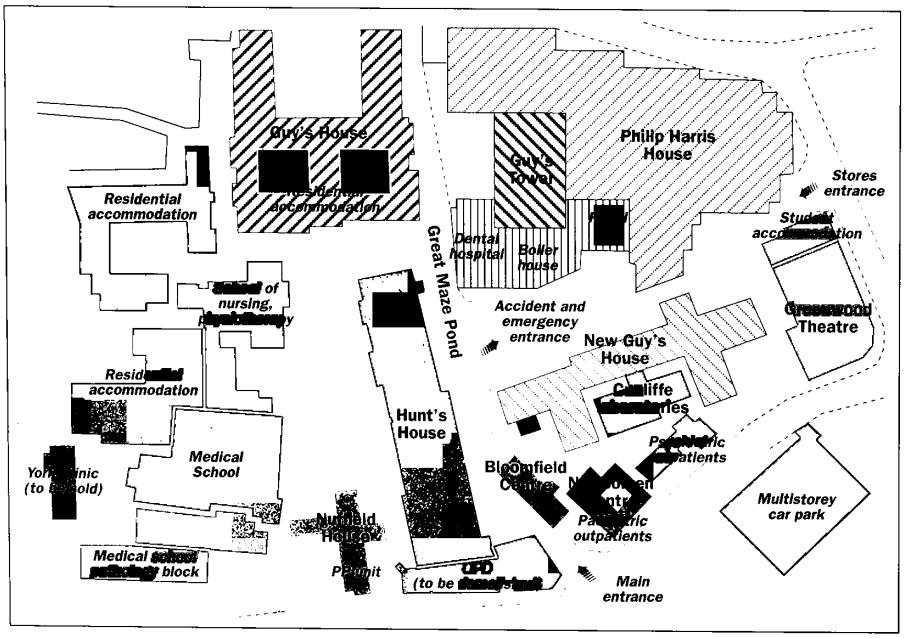


Figure 6.1

Guy's Hospital site: schematic

research accommodation is included. However, Philip Harris House is a 1990s design replacing an 1850s low technology building. While external maintenance of the building will be cheaper, maintaining the engineering services will be far more expensive.

In common with many hospitals, especially those driven by high technology medicine and the need to innovate, the maintenance of the estate has been underfunded for many years. This particularly applies to New Guy's House and to the Tower over the past 20 years. The Trust is beginning to address the problem but is faced with an uphill struggle because of new pressures on its revenue expenditure. Planned preventive maintenance has not been adopted and there are signs that basic engineering services are begining to fail.

In particular, the infrastructure in the Tower has reached the point where it must be replaced. There is high voltage distribution in the Tower with transformers on a number of floors. This is being extended to the whole site and when complete will ensure guaranteed power supply to the hospital.

A complex hospital such as Guy's has experienced steady growth in electrical consumption, both because of increasing medical technology and also because of the introduction of computers, vending machines, and personal televisions for each bed.

Two high voltage transformers blew out in 1991. The lack of planned preventive maintenance and routine replacements means that one failure could put large parts of a modern hospital out of action. Installation of high voltage power across the site will cost over £1 million. Lift maintenance is yet another crucial item in a site which has 86 lifts travelling a total of 100 miles per day. The problem is not so much the Tower as such, but the enormous size of the building. Other problem areas are ventilation systems and the UPVC windows.

The other significant problem in maintaining the Guy's estate concerns staff residences. It is noticeable when looking through condition appraisal tables for London hospitals that the worst scores in the "C" and "D" categories refer to staff residential accommodation. The standard of accommodation will not cope with the removal of Crown immunity. The accommodation is deficient in relation to fire alarms, kitchen accommodation, numbers of toilets and fire-resistant doors and floors. One of the residences is in a listed building which means that the costs of remedying the problems are higher. This is a feature which will be referred to again in relation to estate costs in London teaching hospitals.

The estimate for backlog maintenance for the Guy's site was £8.5 million in 1988 and has now risen to nearer £20 million. It is not the only requirement for expenditure which the Trust faces, since it also manages Lewisham Hospital.

Lewisham Hospital is a general hospital which dates back to the 1850s. Many of the original blocks remain. A phased redevelopment has taken place with new theatres, theatre sterile supply unit, intensive care unit, catering department, rehabilitation block and physiotherapy departments having been built. Phase II is still on the drawing board,

which will provide ward blocks, mortuary, mother and child unit and upgraded nurses' home. It is a redevelopment that is likely to take until the twenty-first century to be completed. Lewisham Hospital has undoubtedly suffered by its association with Guy's in terms of capital funding. The original plan of the DHA was to concentrate acute services on to Guy's and Lewisham sites and to close everything else. The priority services have been severed from the Trust, and thus the old plan is in part out of date. There is a clear need for a new Trust strategy to be developed before further major investment takes place. The original hospitals in the district and their estate maintenance needs are summarised in Table 6.1.

With the exception of Guy's and Lewisham Hospitals, it is clear that the pre-existing strategy will have dealt with the majority of the backlog problem by disposals or selling off large parts of remaining sites. This assumes that planned closures at Hither Green and Grove Park are achieved on schedule.

In common with a number of districts in SE Thames region it seems to have been a feature of service rationalisation not to have

Table 6.1

Original hospitals in the Guy's Hospital district and their maintenance needs

Property	**Status**	**Cost to bring to condition B**		
		Building £'000s	**Engineering £'000s**	**Total £'000s**
Guy's Hospital	Teaching hospital	3,591.0	4,917.0	8,508.0
Dunoran Home	Convalescent home in Bromley ? future	69.5	-	69.5
Lewisham Hospital	General hospital: plans to expand site	6,302.0	1,801.0	8,103.0
Sydenham Hospital	Children's unit closed in 1991 and absorbed on Lewisham site	-	-	-
New Cross Hospital	Most disposed of: poisons unit and elderly frail unit on site part of Guy's Trust	635.0	65.0	700.0
Hither Green Hospital	Scheduled for closure except laundry area	2,293.0	2,204.0	4,497.0
Grove Park Hospital	Mental illness: scheduled for closure in 2 years	1,543.5	774.0	2,317.5
St Olave's Hospital	Most disposed of: small MI unit on part of site	99.0	125.0	224.0
Yeomanry House	Sold	-	-	-
Community Clinics		648.5	93.2	741.7

Source: SETRHA Condition Survey 1988

vacated whole sites. There are significant numbers of half empty sites in south London where decaying buildings remain and on which residual health service activities take place. Not only do maintenance costs remain but the full benefit of disposal is not achieved. The opportunity costs of such an approach are high.

The *key issues* from an examination of the Guy's Hospital sites are the following:

- the importance of improving the functional relationships of buildings and departments on a cramped site that has grown in piecemeal fashion over many years;
- the severe operational dangers caused by many years of under investment in the estate, particularly in those parts of the estate that the ordinary visitor does not see (e.g. engineering services – see front cover photograph, lower left);
- the difficulty in restraining creeping development into vacated buildings;
- the probably unknown and uncalculated effect of major new building on capital charges and ultimately prices charged;
- the need for an overall environmental plan for the site using the opportunity to demolish many of the buildings on the southern perimeter around the main entrance together with Hunt's House;
- the likelihood that the major changes in clinical practice outlined in Chapter 4 have not been adequately allowed for in the functional content, and may lead to the possibility of reducing the overall bed allocation;
- the need to re-examine inherited service and site rationalisation strategies in light of the establishment of the Trust and of the market led business environment. This could lead to a re-examination of the extent of capital investment at Lewisham, and a change in the balance of services between the two sites;
- the possibility, in view of the date of construction of New Guy's House and possibly of the Tower, of introducing more bed spaces into the existing envelope, as has been achieved elsewhere through the estate utilisation project studies.

St Bartholomew's Hospital

St Bartholomew's is another site on which services have grown like topsy (Figure 6.2). Functional relationships took second place to the demands of the architecture and constricting nature of the site. Almost all the buildings on the site are listed or are part of a configuration of buildings where any changes would be treated as if they were listed. There has been a hospital on the site since the twelfth century AD, and the oldest building on the site is the Church of St Bartholomew the Less, whose incumbent has as his sole parish the hospital itself. The church is thankfully not

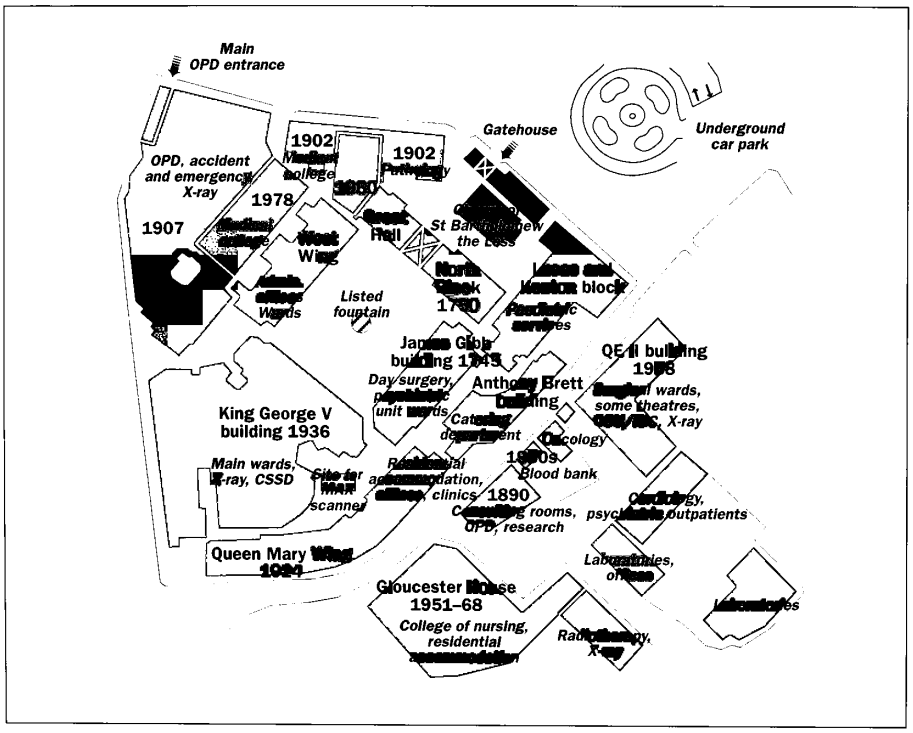


Figure 6.2

St Bartholomew's Hospital site: schematic

maintained by the hospital. The oldest part of the hospital buildings is North Block which dates from 1750, is a Grade I listed building and contains the great hall; and the James Gibb building which dates from 1745. Even the fountain in the main courtyard is listed.

The buildings date from all periods since then with considerable additions in the first half of this century. Restoration of the listed buildings is a major drain on resources and would not be possible without special trustee funding: £12 million has recently been spent on a comprehensive upgrading and refurbishment of the James Gibb building which contains a day surgical facility, psychiatric unit and two oncology wards. The work is considered to have been one and a half times more expensive than would have otherwise been the case because of the listing. Months of negotiations with English Heritage were necessary before the work could begin. The West Wing opposite remains unrestored, and while a lesser sum will be involved because it does not contain such intensive clinical uses, it is anticipated that there will still be a premium on the cost because of the listing.

Within the 1936 King George V block a major capital scheme is underway to create a seven-theatre suite at basement level. This will allow all theatres to be brought together and subsequently all surgical wards to be centralised in the same block. The King George V block contains the majority of the wards, which are of the Nightingale type, largely untouched since the 1930s. Reorganisation of services is also in process in the Lucas and Kenton building (which is Grade II listed). This will bring together all services for children including outpatients,

inpatients, physiotherapy and related functions. The refurbishment has been an expensive one, common to other hospitals, because of the following factors:

- building prices in central London;
- limited access and space for contractors;
- limited hours during which building work can occur;
- extra costs associated with a listed building.

Thus, St Bartholomew's is taking steps to improve functional relationships. Other dysfunctionalities remain: X-ray services are scattered over three sites, and laboratories are scattered. A series of underground corridors link all parts of the site except the West Wing but are unattractive for patient and visitor movement. Car parking remains a major headache. The cost of adding an extra deck to the car park under Smithfield would carry a revenue cost of £300,000 per annum. Nevertheless, the hospital considers it needs to be able to offer car parking to patients in order to maintain its competitive position in the marketplace and because of the development of day surgery. Major improvement will only come if the site can be decongested by moving services off-site altogether.

There is some evidence that the historic need to be on the Bart's site is giving way to an acceptance that some services can sensibly move elsewhere. A strategy group is currently examining the balance of services between Bart's and Homerton Hospitals. This may mean moving support services and some administrative functions, and it may well involve moving most residential accommodation down the Central line of the Underground.

Concern was expressed that once the new theatre suite was open the surgeons would not want to fully close the old ones. Again, the impact of capital charges must make such attitudes unacceptable.

St Bartholomew's has for ten years been working within a strategy devised by the health authority. This meant concentrating acute services on to two sites, Bart's and Homerton. Psychiatric and elderly beds remain at Hackney Hospital. Hospitals that have closed during this period are the German, Mothers, St Mathew's and St Leonard's. Bart's is sited at the southern end of the District and Homerton at the north. Homerton has been redeveloped on the site of the Eastern Fever Hospital which dated from 1860 to 1880. Some of the original buildings are still on the site and house the Regional Neurological Rehabilitation Unit. The St John's Wing, which dates from the 1850s, houses an elderly mentally ill unit.

The Homerton site covers ten acres (Figure 6.3). The new buildings take the form of a modified nucleus design, opened in 1986, providing 458 beds in Phase I. Phase II is in the process of being scaled down from £50 million to £20 million, the first tranche of which at £9 million is included in the current regional capital programme. Although the objective is to allow vacation of the Hackney hospital site there is concern that the sum allocated may not be sufficient to enable this to happen.

Hackney Hospital (Figure 6.4) is the most expensive site in

Figure 6.3

Homerton Hospital site: schematic

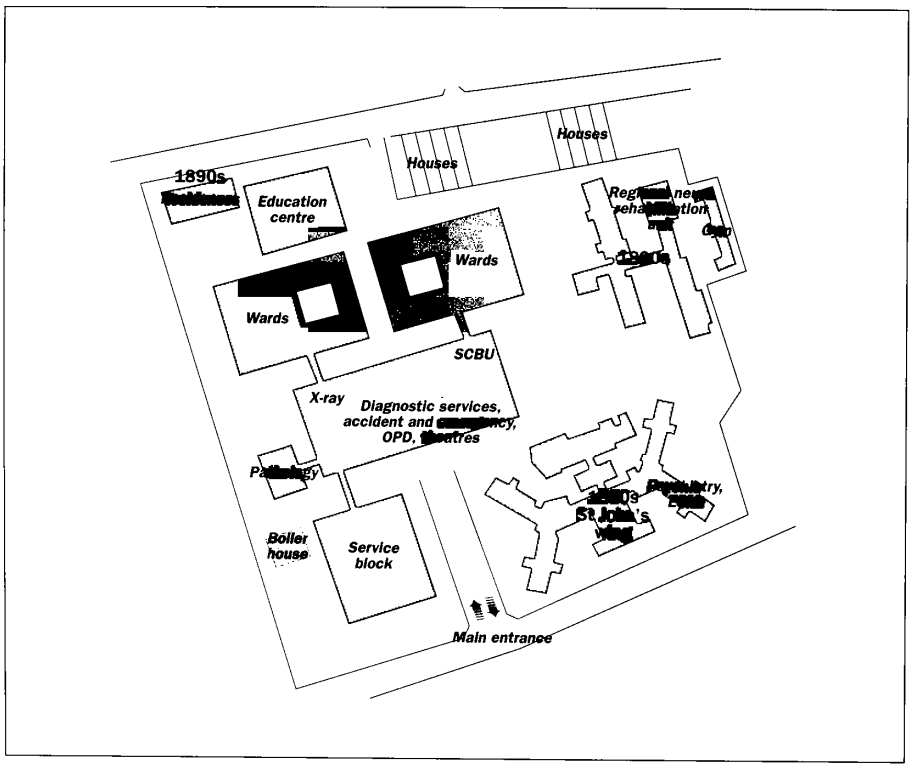
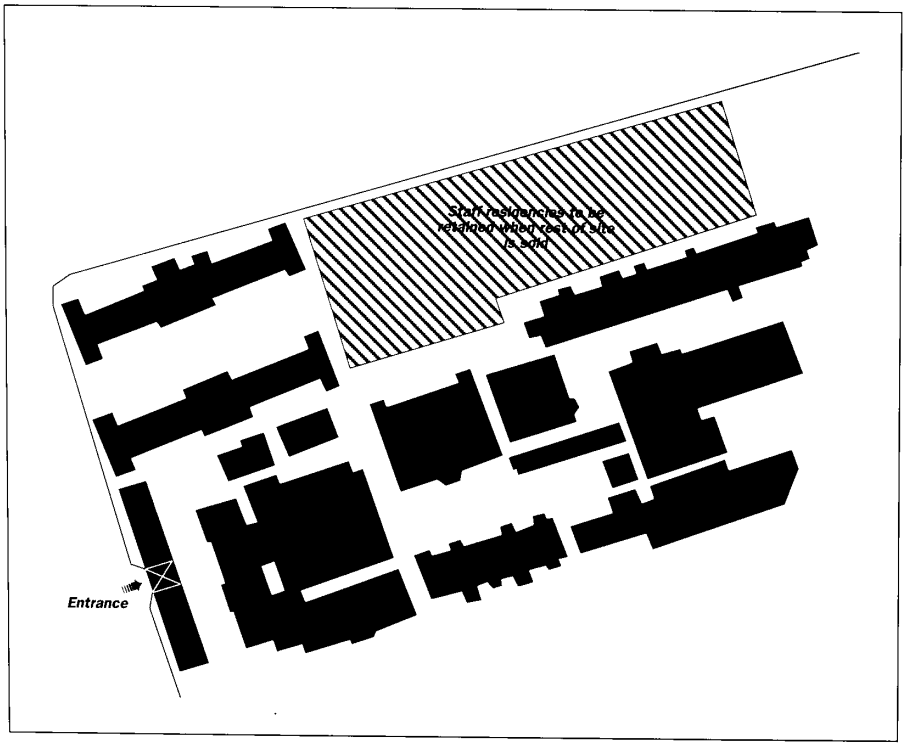


Figure 6.4

Hackney Hospital site: schematic



maintenance terms in the district. Its buildings date from the mid-nineteenth century and are multistorey ward blocks of the workhouse type. Some of the buildings on the site have been empty for three years. The intention is to dispose of the site except for the nurses' home.

The other hospital within the district is St Mark's, a specialist hospital for diseases of the colon and rectum. It consists of an L-shaped block built in 1870 and a nurses' home built in 1936. The hospital fills its small site. It contains 93 beds and outpatient services. It is in poor condition, has no intensive care facility and no resident anaesthetist.

There are plans to relocate the service into Bart's and several ideas have been produced about how to achieve this. If it is not to move in the near future it is estimated that it will need £1 million spending on it to keep services going for five years.

The *key issues* from consideration of St Bartholomew's hospital and its associated sites are the following:

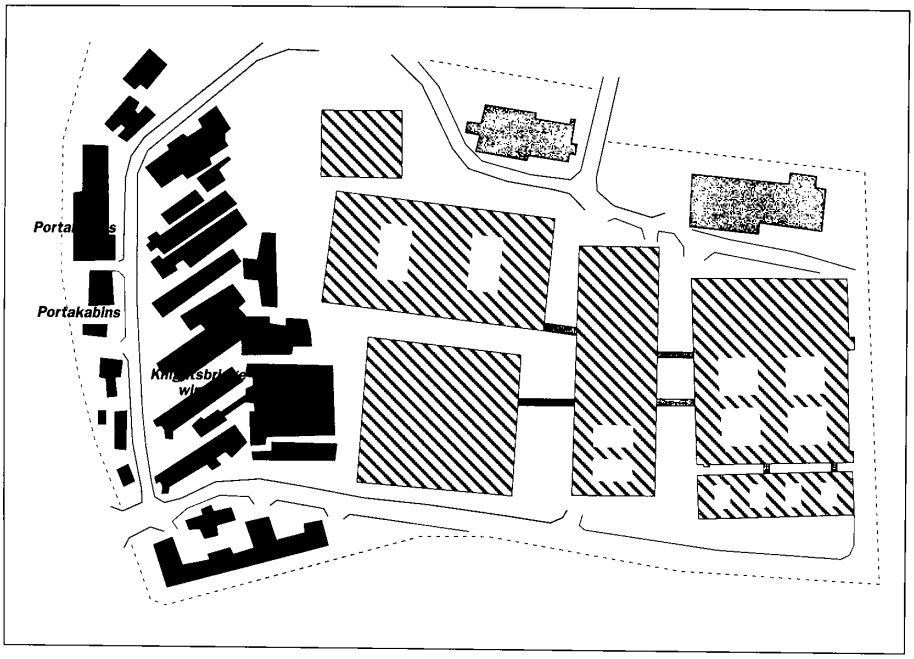
- the high premium that has to be paid in renovating listed buildings and introducing modern medical technology into them. The opportunity cost of such expenditure is significant, and may not be justifiable without the protection of special trustee funds;
- the continuing functional difficulties even after large capital investment; the subterranean tunnels are acknowledged to be in need of maintenance; expensive facilities such as X-ray and pathology remain split and car parking adds a large overhead cost;
- the difficulty in persuading staff and functions that they do not all have to be on the main site. Easy candidates for removal, such as some administrative functions and residences, must not obscure the more radical options which relate to pathology services, Central Sterile Supplies Department (CSSD) and a range of smaller departments;
- the problem of a half-empty site which cannot be closed (Hackney Hospital). Bolder decisions on sizing of services need to be taken if the burden of part used sites is to be tackled with very limited capital;
- the problem of relocating a service which fears it will lose its identity and all the support services it needs (St Mark's Hospital). Imaginative ways can be found to incorporate a function into a larger building while retaining its separate identity, in both architectural and service terms. This is an issue that will need to be faced in relation to the excessive number of small specialist hospitals referred to in Chapter 3.

St George's Hospital

St George's Hospital is part of the St George's Group which includes the Bolingbroke, Atkinson Morley and community based services. These form a single unit. The other unit is the mental health unit which is sited at Springfield Hospital. The teaching hospital was relocated from central London in the 1970s and has been progressively developed on its site since then. The Grosvenor wing opened in 1978,

Figure 6.5

St George's Hospital site: schematic



Lanesborough in 1980 and St James's in 1987. But parts of the hospital remain in nineteenth-century buildings. The Knightsbridge wings date from 1899 and house the cardiothoracic service. They make a stark contrast with the new hospital and are also surrounded by portakabins which have been fitted into every spare piece of space around the ring road on the western side of the site (Figure 6.5).

The most recent estimate of expenditure to bring the estate to condition B is shown in Table 6.2.

A further £1.7 million is estimated to be needed to bring St George's up to category B in energy performance. Expenditure to meet statutory and safety requirements is estimated as shown in Table 6.3.

The largest components of these figures are for fire precautions and legionella. Smaller sums are required for sterile goods, building regulations, catering, waste management and control of substances

Table 6.2

St George's units: estimates of expenditure to bring the estate to condition B

Source: KE84 March 1991

Site	Cost to condition B (£'000s)	Category (%)			
		A	B	C	D
St George's	14,470	15	60	25	0
Bolingbroke	1,726	0	30	70	0
Atkinson Morley	4,830	0	50	50	0
Sub total	**21,026**				
Springfield	16,600	0	30	70	0

Table 6.3

Expenditure to meet statutory safety requirements

Site	Statutory and safety requirements to condition B (£'000s)
St George's	7,147
Bolingbroke	870
Atkinson Morley	2,830
Sub total	**10,847**
Springfield	5,915

Table 6.4

Property overhead costs

Site	Property overhead (£/m²)
St George's	72
Bolingbroke	86
Atkinson Morley	53
Springfield	63

hazardous to health (COSHH).

Property overhead costs are uniformly high across most sites (Table 6.4). The national performance target is £50 per square metre. Although the St George's figure might be expected to be higher than average this is not the case at the other sites.

The *key issues* from an examination of the St George's site are the following:

- the estate problems which phased redevelopment causes when there are delays in achieving the complete plan;
- the maintenance headache caused by the proliferation of portakabin extensions on the periphery of the site;
- the high maintenance demands from sites other than the teaching hospital, in this case in particular from Atkinson Morley. Springfield Hospital, though now no longer in the same unit, has in the past competed for maintenance funds. It would be appropriate to consider it a priority to absorb the 92 beds at AMH on to the St George's site, even though AMH provides a useful feeder service to St George's for patients.

Charing Cross and Westminster Hospitals

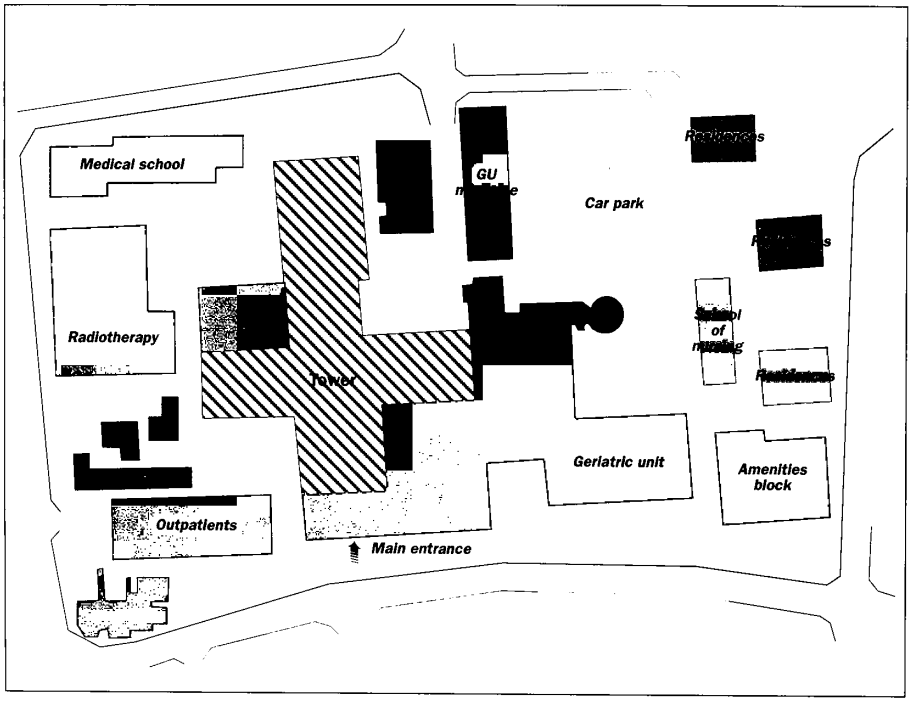
Hospitals in the Riverside district are already in the midst of a substantial service and site rationalisation exercise. The plan currently being implemented has involved the closure and demolition of St Stephen's Hospital; the construction on its site of the Westminster and Chelsea Teaching Hospital on a fast track timetable; the transfer of services into it from the Westminster Hospital, the Westminster Children's Hospital, St Mary Abbot's Hospital and the West London Hospital; and the closure of these four sites. It has been regarded as a bold plan which gained political approval in the teeth of opposition from many quarters. The resulting new hospital will undoubtedly be a showpiece of modern design and a fitting centre for high technology medicine of the twenty-first century. The new 665 bed hospital will provide from the five storey building accident and emergency, outpatient, maternity, neonatal care, paediatric, day care, cardiology, mental health and medical school academic departments. Completion is scheduled for June 1992 with occupation in 1993.

The existing strategy is that this would leave Riverside with two major acute teaching hospitals, the Westminster and Chelsea and Charing Cross. However, the impact of the internal market is already throwing that plan into doubt.

Charing Cross Hospital is a hospital of 740 beds with busy outpatient and accident and emergency departments. The first stage of the present complex of buildings was completed in 1972 and houses the hospital and the joint Westminster and Charing Cross medical schools with their associated research and professorial units. Developments in the mid-1980s completed the North Wing and associated X-ray department. A new accident and emergency unit was opened in 1988 and the genito-urinary unit opened in 1990. The main structure is a 16

Figure 6.6

Charing Cross Hospital site: schematic



storey cruciform block rising above a three storey podium. The site covers 7.0 hectares and is surrounded on all sides by public roads. There is potential for some expansion in the south-east corner of the site by the car park (see Figure 6.6).

Charing Cross is another "new" hospital on which few maintenance funds have been spent. The problems which that has created are now coming to the surface. A major failure of the cladding on the building has produced a problem that will cost £5 million to rectify. Failures in the chilling system during winter 1990–91 created severe operational difficulties in the operating theatres and mortuary. £1 million has already been spent on lift refurbishment and much of the programme remains to be done.

The condition of the estate of the main units in Riverside is given in Table 6.5. It shows that the cost to bring the physical estate to condition B at Charing Cross is £9.6 million. The full cost of backlog maintenance will undoubtedly be higher. Expenditure of at least £11 million will be avoided through the site rationalisations linked to the new Westminster and Chelsea Hospital. However, the priority care unit faces considerable expenditure on its estate. Much of this will be unnecessary if Horton Hospital can close in the mid-1990s.

The age of the buildings in Riverside by area is shown in Table 6.6. The acute rationalisation programme, together with the plans to close Horton in the mid-1990s will remove many of the oldest parts of the estate.

The *key issues* that arise from the estate situation in Riverside are the following:

Table 6.5

Physical condition: main units in Riverside

Site	Physical condition category cost to B					Overall functional suitability	Overall space utilisation	Statutory and safety requirements category			
	A	B	C	D	£'000s			A	B	C	D
Charing Cross main site		x			9,409	B	3			x	
Charing Cross other		x			191	C	3		x		
					9,600						
Westminster: site			x		4,875	D	3			x	
Westminster: other		x			1,845	C	3		x		
Westminster Children's			x		1,187	D	4			x	
W.C. other		x			275	C	3		x		
West London site		x			2,487	D	2		x		
West London other			x		28	C	3		x		
St Mary Abbot's site		x			500	C	3		x		
St Mary Abbot's other		x			-	C	3		x		
					11,197						
Gordon Hospital		x			155	C	3		x		
Cassel		x			812	C	3			x	
Horton		x			5,427	C	3			x	
					6,394						

- the maintenance demands that build up in a new hospital when inadequate planned preventive maintenance is undertaken;
- the successful way in which the estate problems have been tackled through a bold site and service rationalisation strategy;
- the work that remains to be undertaken to further rationalise mental illness services which are still provided from four sites (Charing Cross, Gordon, Cassell, Horton);
- the likelihood that changes in referral patterns, resource constraints

Table 6.6

Age of the buildings in Riverside

Site	Area (sq metres)				
Hospitals	**Pre-1850**	**1850–99**	**1900–18**	**1919–48**	**Post-1948**
Charing Cross				134,192	
The Cassell	2,300	1,350		900	
Horton		59,890	1,342	60	2,559
West London		12,354		1,762	5,084
Westminster			57,004		
Westminster Children's		6,242			
St Stephen's		6,942	7,689	1,067	28,524
Gordon				6,057	
Total	**2,300**	**86,778**	**66,035**	**144,038**	**36,167**

and other market pressures are making even the existing bold acute rationalisation plan fall short of what is needed. The funds from the local purchaser and from purchasers of specialist services may only be adequate to run the new Westminster and Chelsea Hospital, leaving a need to find a new use for Charing Cross Hospital.

King's College Hospital

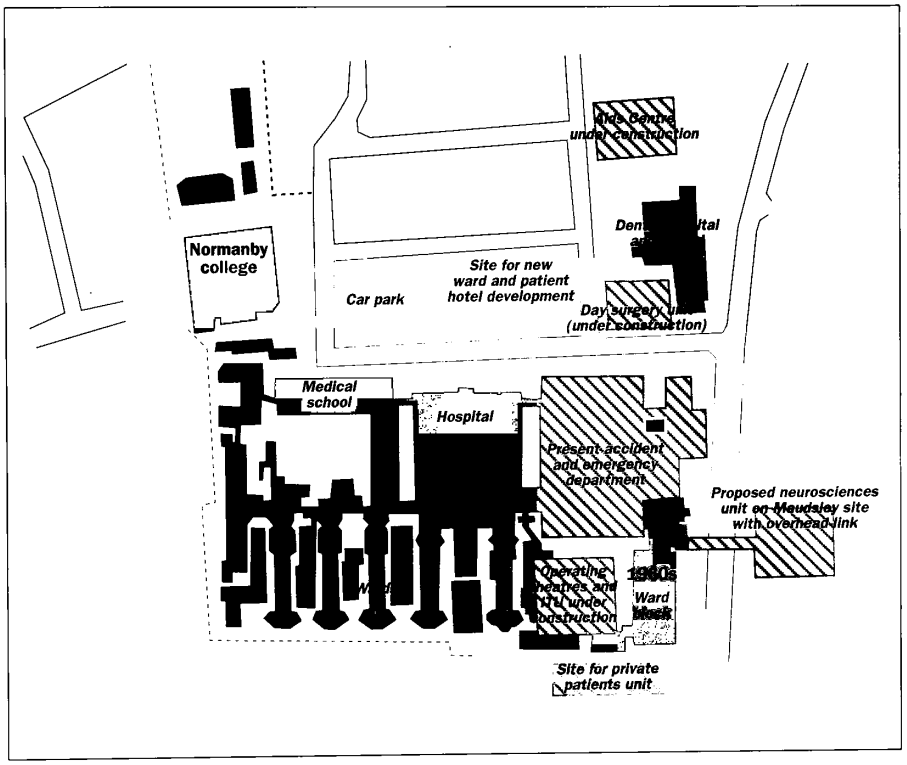
King's College Hospital is a 570 bed hospital which serves a secure market in Brixton, Peckham, Dulwich and further afield for its specialist work. In specific specialist areas its main competitors are Guy's and St Thomas'. It is situated on Denmark Hill and across the road from the Maudsley Hospital. It is bounded on two sides by roads, and on the others by an industrial site and the railway (see Figure 6.7).

King's College Hospital was built just before the First World War. At the time that major rebuilding was being contemplated in the years after the NHS was established, King's was regarded as a relatively new hospital and thus did not figure in the spate of rebuilding of London's teaching hospitals in the 1960s and 1970s. What King's did acquire at that time were several neighbouring hospitals, St Giles, St Francis and Dulwich, which were incorporated into a single hospital group. While this development was consistent with the community orientation that has always been part of the King's ethos, in estate terms they added a considerable burden.

The policy of the Camberwell Health Authority, which will be continued by the proposed NHS Trust, has been to centralise all acute services on to the King's College Hospital site. St Giles, St Francis and the Belgrave Hospitals have all closed, and a key element of the King's 2000 strategy is to bring all the acute services from Dulwich Hospital

Figure 6.7

King's College Hospital site: schematic



South Wing on to the site. The Trust, approved in the second wave but delayed until April 1993, will contain all acute and community services except mental health and mental handicap services, and thus will remain in a position to fulfil the strategy.

The King's 2000 strategy is about bringing acute services on to one site and dealing with the worst estate problems in the district and also about developing community services and strong links between hospital and community. The medical school is as yet unique in London in the extent to which it trains doctors outside the traditional acute hospital setting.

The complete redevelopment plan is very substantial and very ambitious. It involves expanding the physical size of the hospital to almost double, by building on land opposite the present hospital. This will involve moving a school and demolishing three rows of houses owned by the special trustees, closing off several of the access roads, and building above the railway line. The development is notable in at least three ways:

- the emphasis on trying to create a hospital for the twenty-first century. The functional content has recently been amended to reduce the bed content, to introduce a patient hotel, and to allow a very sizeable day treatment presence in both surgery and medicine;
- the deliberate policy of breaking up the overall development into manageable pieces, of avoiding a plan which requires a single huge capital sum, and of ensuring each scheme can stand on its own;

- the intention to fund the development both from NHS capital and from a sizeable fundraising campaign. The King's Appeal has a target of £40 million. The purpose of the fund is largely seen as pump priming, and has enabled an early start on a major scheme to centralise provision of operating theatres.

Scattered operating theatres are one of the most serious dysfunctionalities of the site. The new provision will also improve the functional relationship with the surgical wards and intensive care unit. Almost as serious are the conditions in which patients are treated in the accident and emergency department. It suffers severe overcrowding and is recognised by the RHA to be the accident and emergency department most in need of rebuilding in the region. A recent study of the operation of the hospital otherwise concluded that most elements of the service were in the appropriate place. Because many of the walls in the original building are almost one metre thick it is difficult to upgrade and modernise.

The development plan overall appears ambitious given the uncertainties of the internal market. Revenue problems in 1990–91 closed 135 beds in the district (resulting in the closure of St Francis Hospital) without any physical re-provision being made. The plan appears to allow for this by its piecemeal approach to implementation. The impact of dramatic increases in day surgery provision and in medical day care and day investigation has yet to be experienced, and a patient hotel could further reduce the need for inpatient provision. The extent of RHA support for the scheme, however, remains unclear. Scepticism over the ambitious overall concept may colour decisions over the extent of RHA funding that can be committed.

The King's 2000 Development Programme comprises three major phases together with a range of smaller projects. Phase I comprises three schemes: a large day surgery centre; an AIDS/HIV outpatient centre; and an operating theatre (five twin suites) and intensive care complex. Phase II will include a medical day centre; patients' hotel; diagnostic centre for radiology, scanning and magnetic resonance; and some wards. The full list of projected schemes is set out in Table 6.7.

Bringing the physical fabric of King's to condition B was assessed in 1988 at £9,124,000. This is certain to have deteriorated since and, if the demands from statutory standards and energy are added in, the figure is likely to be nearer £20 million. Twelve areas of the hospital were assessed as being at condition C or D out of a total of 39 areas surveyed. Most of the ward areas came into the C or D category. The redevelopment will need to tackle the upgrading of the pre-First World War wards to condition B standards, if they are to continue to function, as well as the building of new wards.

The *key issues* from consideration of the estate at King's College Hospital are the following:

- the importance of enabling new concepts of the acute hospital to be created that will meet the needs of the twenty-first century, and to avoid building out-of-date hospitals that are inpatient bed oriented;

Table 6.7

Projected schemes in the King's 2000 programme

Scheme			Overall cost (£ million)
I	A	Day surgery centre	
	B	AIDS centre	
	C	Operating theatres block	
II	A	Medical day centre	
	B	Patients' hotel	
	C	Diagnostic centre	
	D	Some wards	
	E	Joint education centre	
Subsequent phases			
	A	Ward block	
	B	Outpatients	
	C	Pharmacy	
	D	Dining facilities	
	E	Car park	
	F	Estate improvements	
	G	Ward upgradings	
	H	Main site services	£145
Related research projects/professional chairs			
	A	Women's health	
	B	Autoimmune diseases	
	C	Bowel cancer	
	D	Oral cancer	
	E	Falls among the elderly	
	F	Rehabilitation engineering	
	G	Post-operative orthopaedic care	
	H	Professional chairs (GP, nursing, dental, clinical pharmacology)	£10
Total			**£155**

- the value of creating a vision that can be shared by all and can be something to work towards, but which is flexible, and can respond to changes in market conditions over time;
- the importance of creating an overall development control plan, but where the individual elements can be built in manageable and affordable tranches of capital. Table 6.7 demonstrates this well;
- the need to balance investment in new building against large-scale refurbishment, and to consider carefully the capital charge implications. King's believes the hospital will remain profitable against its London teaching hospital colleagues in spite of the massive new building programme, but it may not be the London teaching hospitals which are its main competitors in key areas of its business;

- the problems of town planning considerations which face such a complex redevelopment. It requires a school to be relocated, three roads to be closed, building over a railway line, and the creation of a connecting link across a busy main road. Even with a sympathetic local planning authority there may be considerable delays.

Greenwich

In common with some other London districts studied there has already been substantial rationalisation of services in Greenwich which has reduced the size of the estate. The Dreadnought, St Nicholas Plumstead, the Hospital for Mothers and Babies at Woolwich, and Eltham Cottage Hospital have all closed. But in common with other districts the measures taken have not gone far enough and a further acute service rationalisation exercise is under way. The effect of the internal market is already affecting rationalisation plans. The original plans for bed provision in the district have been scaled down by at least 200 acute beds.

The main site for acute service provision in the district is Greenwich District Hospital, built under the Harness design principles in the 1960s whose last phase opened in 1976. The hospital almost completely fills its urban site and there is no room for horizontal expansion (see Figure 6.8). The hospital, though modern, faces some serious maintenance problems:

- it has the second highest energy costs in the region. (Guy's Hospital has the highest.) This results from the existence of an interstitial floor – a

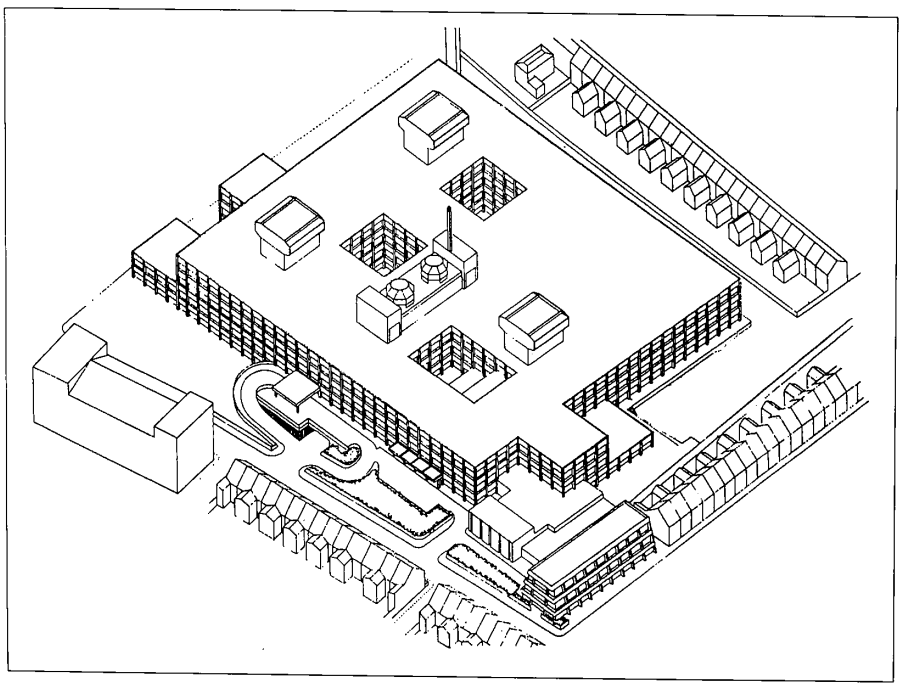


Figure 6.8

Isometric projection of existing Greenwich DGH

two-metre headroom service duct between each operational floor of the building, built to allow ease of maintenance and flexibility of electrical and mechanical services. But the existence of the space means that a much bigger building is being heated and cooled than is being used. The annual fuel bill at Greenwich is £800,000. This compares with £400,000 at the Brook which, although a smaller hospital, is older, more spread out and less efficient;

- there are problems in relation to fire regulations because of the car park on the lower ground floor. A current proposal involves moving the car park on to the roof with a ramp at the side of the hospital.

The Brook Hospital contains 500 beds and is a second general hospital as well as a major cardiothoracic and neurosciences centre for the region (see Figure 6.9). It was originally built as an isolation hospital in the late nineteenth century with two-storey ward blocks linked by open corridors. As the need to provide operating theatres and other features of modern medicine arose, they were fitted into inappropriate buildings. There are severe gradients on the site, poor functional relationships between departments and a substantial backlog maintenance bill of £6.3 million. It is an inappropriate setting for twentieth-century medicine. Arguments over the future disposition of neurosciences and cardiothoracic services have taken place over many years, while the state of the buildings has worsened. It is known to have a limited life, and the present intention is to move neurosciences to King's College Hospital.

The local plan is to move local acute provision into space made free within Greenwich District Hospital by the car park plan. It is clear that these moves must occur within two to three years in order to avoid the need to spend large sums of money at the Brook dealing with backlog maintenance.

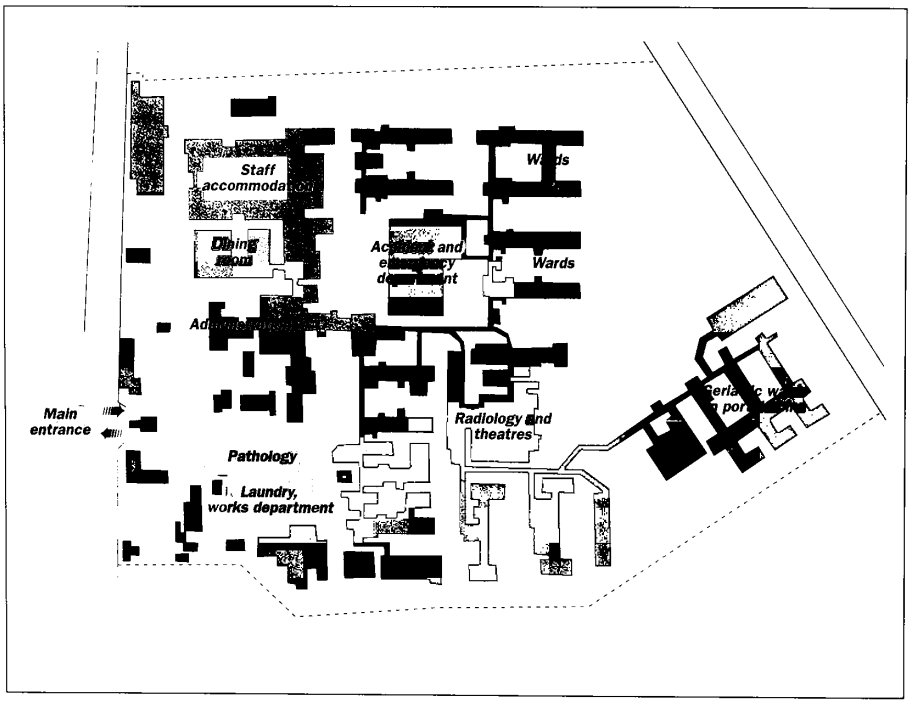
It is, however, considered that Greenwich District Hospital would need to be backed up by about another 150–200 elective beds elsewhere. There are two options for this: to contract with the nearby Queen Elizabeth Military Hospital for the elective work through a contract with the purchasing DHA; or to build a new unit on the Greenwich Memorial Hospital site on Shooters Hill. This hospital is in average physical condition and the main part of it is listed. It houses 91 psychiatric beds and some community services on a spacious site with considerable expansion potential. Maintenance requirements amount to just under £1 million. The third option, of retaining some services on the Brook site, appears not to have been totally ruled out.

The *key issues* from consideration of the Greenwich estate are the following:

- the importance of taking essential decisions on site closure in order to avoid crippling maintenance expenditure. Politics and an absence of capital are both to blame for past delays;
- the importance of considering the value of sites in deciding which to close. The open market value of the Brook site is high and must become the trigger to rationalisation;

Figure 6.9

Brook Hospital site: schematic



- the recognition of changes in workload caused by market forces and the implications this will have for size of hospital provision;
- the possibility that even the best laid plans are not radical enough to cope with the future pace of change, and that time will run out before they can be implemented.

The Royal Free Hospital

The Royal Free Hospital in Hampstead moved to its present site from its original location in Gray's Inn Road in two phases, in 1974 and 1978. It contains just over 870 beds on a single site as well as the premises of the medical school.

The hospital now forms the major part of the Royal Free Hampstead NHS Trust, and the major sites within the Trust are:

Table 6.8

Comparison of the major sites in the former Hampstead Health Authority

Site	Physical condition Category %					Overall functional suitability
	A	B	C	D	Cost to B (£'000s)	
Royal Free		x	x		10,874	A
Coppetts Wood		x	x		186	B
Friern Barnet		x			-	B

- The Royal Free Hospital (acute);
- Coppetts Wood Hospital (infectious diseases);
- Queen Mary's Hospital (elderly care).

The former Hampstead Health Authority also managed the major site at Friern Barnet Hospital (see Table 6.8).

There have been two strands of rationalisation in the history of the Health Authority. First, the development of a new hospital for elderly patients, Queen Mary's Hospital, on part of the site of the former New End Hospital. The building has recently opened and this was the culmination of four years of planning, design and construction. It is managed by the Trust and provides 66 elderly care beds, 36 beds for elderly mentally ill and a day support service. The capital funds came from the sale of the New End Hospital site and from RHA allocation.

New End Hospital was a former workhouse which had become a geriatric hospital. Together with beds at Friern Hospital it had provided the longer term element of the service for the elderly and those with dementia. The opening of the Queen Mary's unit together with "The Hoo", a day unit for those with Alzheimer's, has transformed the service and enabled it to provide an improved support function to the acute beds at the Royal Free. These changes in service were, however, the subject of some opposition from local groups and the Community Health Council.

Secondly, a major concern of the former Health Authority has been the closure of Friern Barnet Hospital and the relocation of patients and services. This has been an extended programme involving substantial capital investment in local community homes and hostels. Over the past six years £2.5 million have been spent on such provision. More schemes have yet to be implemented before the final closure which is scheduled for April 1993. The Royal Free Trust continues to project-manage the closure on behalf of the health authorities concerned.

Within Hampstead Health Authority changes have been made to the local psychiatric service. One of the worst service dysfunctionalities of the original plans for the Royal Free had been the provision of a 60 bed acute psychiatric ward in the podium block. This has proved an ill-designed facility and is in process of being replaced by three 23 bed units

Overall space utilisation	Statutory and safety req. Category (%)				Cost to B (£'000s)	Energy performance Category				Cost to B (£'000s)
	A	B	C	D		A	B	C	D	
3		x	x		500		x			-
3		x	x		454		x	x		53
3		x			-		x			-

on the edge of the site. The child psychiatry unit, previously within the acute psychiatric unit, is to move into a closer relationship with the paediatric unit.

The hospital based acute provision will be complemented by an intensive rehabilitation unit in postwar single storey buildings in Daleham Gardens. The group homes and hostels in the community together with community care teams, make up the final element of the local service.

Maintaining Friern Barnet Hospital, built in two years to a standard design and opened in 1850, has proved an ongoing headache, because of the uncertain date of final closure. The extent to which continued investment is worth while becomes a moving target. Some parts of the site have been sold off, and others shut down. The coal fired boilers have been closed. The frontage of the hospital, three times the length of Buckingham Palace, is listed and cannot be knocked down. When a portion at one end of the frontage became structurally unsound lengthy negotiations were necessary before it could be demolished. One of the major problems in maintenance terms is the roof of the whole hospital which allows rainwater to flood back in because of its design.

At the Royal Free Hospital, maintenance problems exist because of the deep plan nature of the building. Services were poorly designed, and the increasing complexity of health care technology has put added strain on them.

The air conditioning plant cannot be repaired without turning large portions of it off. Cleaning it and repairing it in big "bites" costs £250,000 per annum and involves 13-week ward closures. The task is the equivalent of repainting the forth bridge. It reflects the technical complexity of a building which covers 120,000 m^2, represents an asset of £260 million (in both site, building and content terms) and is one of the most complex hospital buildings in Europe.

A second problem is that of legionella. The design of the podium does not meet current standards. The cooling towers on the roof cannot be changed to air bypass, and the system requires constant computer controlled temperatures as water is pumped round the building. The implication is constant monitoring and large expenditure.

There is an electrical capacity problem on the site, although energy consumption has been controlled. Lift maintenance is a continuing task, with 39 lifting devices on the site. Six main passenger lifts are computer controlled and balanced, but the bed and goods lift still require investment. Of a £3 million programme, £2 million remain to be spent.

Total backlog maintenance for the Trust, which includes Coppetts Wood Hospital, currently stands at £18.3 million, of which £7.3 million reflects the cost of the removal of Crown immunity. Key areas of expenditure here include fire precautions (fire doors, safety routes, sprinkler systems), legionella, and incineration where the two existing incinerators on site do not meet the current regulations.

In spite of these outstanding demands, largely on the engineering side of the estate, the building is in good condition and is well

maintained. It has stood the past 15–20 years better than some hospitals built more recently.

The most recent analysis of the estate stock is shown in Table 6.9. The figure of Friern Barnet is misleading as it shows only a small part of the hospital managed by the Royal Free Trust. The property overhead for Coppetts Wood is above the norm of £50 per square metre. The intention is to move off the site eventually and to provide separate medium and high secure units (see Figure 6.10). The buildings date from the 1890s and later. There is a problem in assessing the land at open market value because of possible contamination.

Table 6.9

Estate stock of the Royal Free and Coppetts Wood Hospitals

Site	Land area (hectares)	Building area (100m²)	Property overhead (£/m²)	Primary energy PI GJ/100 cubic metres	Target
Royal Free	5.78	1,092.26	44.44	61.1	50.0
Coppetts Wood	4.75	58.69	57.09	90.58	50.0

The Royal Free building is a cruciform block design with few major internal dysfunctionalities. Bed observation and general ward layout is considered to be good. Other than the psychiatric unit already mentioned, the only other department where functional problems exist is the renal dialysis unit. Its situation means that patients have to travel down from the nursing unit in the tower block to the ground floor and be transported in an ambulance to the dialysis unit and back again. Plans are being developed to relocate the service

The Royal Free, although on an island site surrounded by busy roads, is better provided with car parking spaces than most London hospitals. It has a large staff car park and a small multistorey park for visitors (Figure 6.11).

Staff residential accommodation consists of 1000 units of which 100 are brand new and 100 have recently been refurbished. Two-thirds of the provision is, however, in poor condition which is unlikely to meet statutory standards.

The *key issues* from the analysis are the following:

- the very large costs associated with maintaining a complex building which is fully air conditioned because of its deep plan nature;
- the changes necessary to provide an appropriate local acute and community based psychiatric service;
- the costs associated with the closure of Friern Barnet hospital, in terms of ongoing maintenance, capital investment in alternative provision, and management time in project-managing the process;
- the capacity of a relatively constrained site to take some expansion of service.

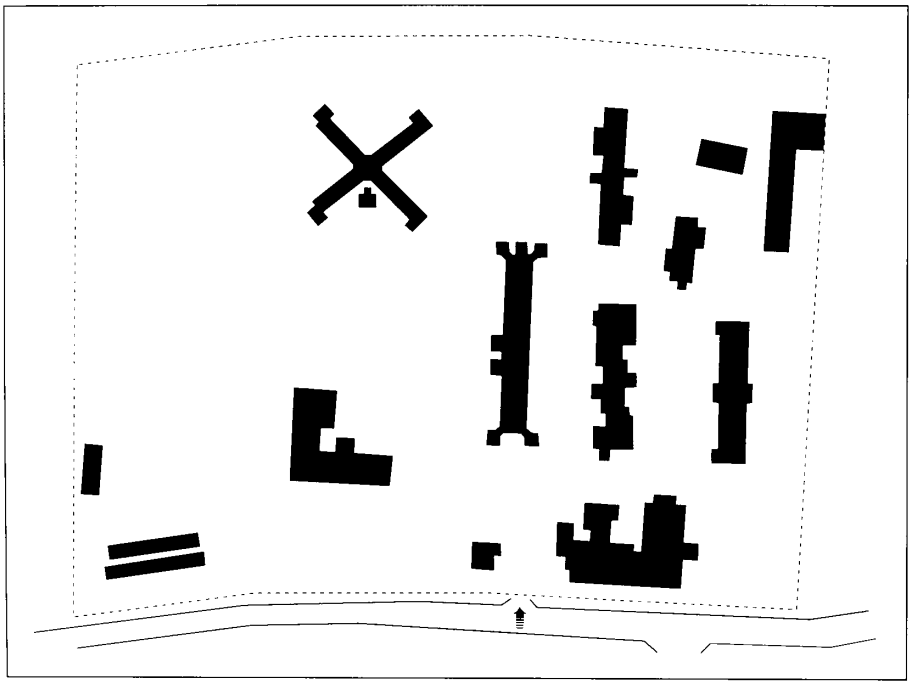


Figure 6.10

Coppetts Wood Hospital site: schematic

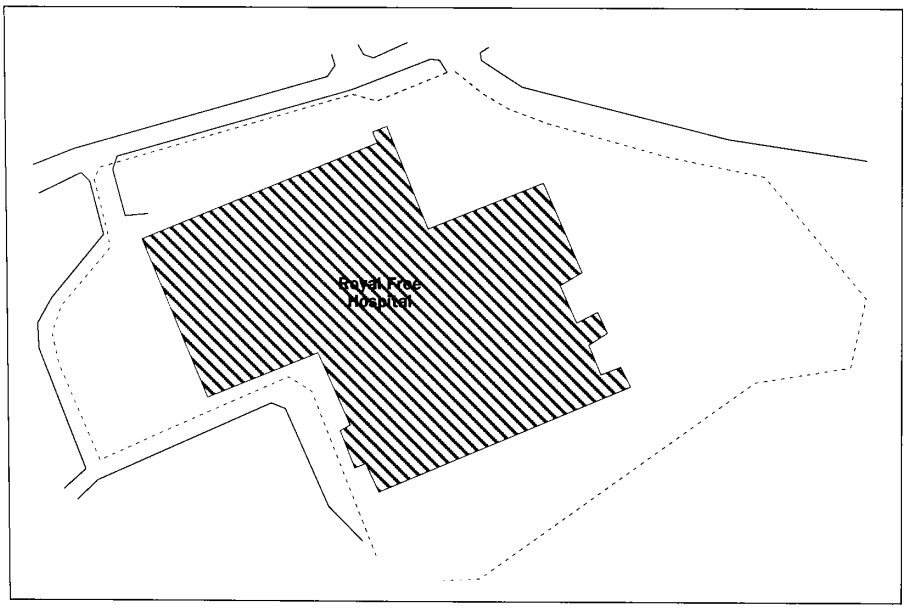


Figure 6.11

Royal Free Hospital site: schematic

General lessons

Some important general lessons for the future planning of the estate in London can be drawn from these case studies.

- All the sites face substantial backlog maintenance expenditure, whether because of the age of the buildings or because of

underinvestment in planned preventive maintenance programmes in the past. With hospitals becoming more high technology dependent the maintenance demands of acute sites will increase in the future. Resources are unlikely to be sufficient to bring all the present sites to condition B and then to ensure they remain there.

- Many of the sites are ill-planned, and represent the accretion of piecemeal development over many years. Most would benefit from detailed space in-use studies, which take a radical look at functional suitability and relationships, the capacity of the buildings to adapt to additional functions, and issues such as access and environmental improvements.
- Changes in medical techniques and medical management will have dramatic effects on the size and configuration of acute hospitals. Current sites require reappraisal to ensure investment can be directed towards achieving hospital provision in London appropriate to the twenty-first century.
- Rationalisation of acute provision on satellite sites should continue. The issue, in other words, is not just how many major teaching hospital sites London needs. The process of concentrating services on to fewer sites, within a Thames-wide strategic framework, will be necessary in order to match resources to provision.
- The framework should allow for three factors to be brought together: a series of localised market analyses relating to groups of neighbouring districts; site specific information about estate condition and capacity; and a pan-Thames perspective which describes the pattern of acute care envisaged at the macro level, and its links to primary and longer term care.
- Although the open market value of sites varies from district to district, in only four cases is the open market value greater than the replacement cost (St Thomas', St Charles, Atkinson Morley and possibly Guy's Hospitals). Potential development value of sites may be of significance in determining the future pattern of services. This should be linked also to the capability of key sites to take expanded capacity, to become more user-friendly, and to support new forms of medical care delivery.

CHAPTER 7

Directions for the 1990s

It is almost certain that the plans for service change and development put in hand today, and considered bold or risky, will be seen as too timid in ten years' time. This report has started from what is on the ground today, both in terms of the estate from which health care is provided and in terms of present plans for change. The final chapter pulls together the threads that have been spun in the earlier part of the report and suggests the implications for decision makers.

An estate manager reported to his general manager in 1989 as follows:

> *It will have been evident from the foregoing report that there are many aspects of backlog maintenance, plant replacement, compliance with statutory standards and rationalisation of property which still have to be worked out in detail. This study is needed at a time when the district is in the middle of a very heavy investment programme ...*
>
> *The biggest impact on reducing the scale of the backlog maintenance problem has been made by reducing the size of the estate in use. The same level of maintenance funding has thereby been concentrated more effectively ... Most of the costs of backlog maintenance at the acute hospitals relate to the mechanical and electrical services ...*
>
> *Staff residences have long suffered from neglect which has resulted in under utilisation due to sub-standard services and decoration.*
>
> *The problems with fire regulations, asbestos, health and safety and legionella ... will inevitably need to be matched by much larger annual funds than have hitherto been provided.*
>
> *There is a major workload for the Estates department in addition to the ongoing capital programme, so I have separated responsibilities in my department ... Management of miracles will still be my direct responsibility.*

Miracles do not happen, and politicians and managers fail to face the consequences. The present estate in London is unsustainable in maintenance or upgrading terms, still less in terms of rebuilding it. The Thames regions face a maintenance backlog of over £900 million and the hospitals in London comprise nearly 50 per cent of that figure. Services that are not even seen by the staff and visitors to hospitals are deteriorating through years of underfunded maintenance budgets, and even in new buildings failures occur. Essential lifts fail, fuses blow, ventilation breaks down, yet somehow services are kept going (Guy's and Charing Cross are examples).

Some sites work in spite of acute dysfunctionalities. The main entrance to the hospital is up a flight of steps, inaccessible to the elderly or disabled, and then the visitor is faced with different levels and multiple flights of steps inside. Wards and departments are upgraded but the envelope is too narrow to be really effective and load-bearing walls prevent more ergonomic use of space (University College Hospital is an example).

Sometimes departments are so inappropriate in terms of age, condition and functionality that no amount of investment can remedy them. The outpatients department at the Middlesex Hospital is one example of this, the Brook Hospital another. The kindest thing that could happen to both is a bulldozer.

It would be wrong to suggest that the response to these issues has been inactivity. That is far from the case. Massive investment is being made in the fabric of London's hospitals. Imaginative refurbishment and upgrading schemes are to be seen across the capital. Large investment is often linked to resolving inefficiencies such as multiple site operating theatres or X-ray departments, and to improving functional relationships between departments and buildings. Service rationalisation plans have been brought to fruition, sometimes in whole, sometimes in part, and hospitals have shut and the size of the estate has been reduced.

It is possible to look at estate and service rationalisation at three levels.

Level I: Site rationalisation – sorting out poor functional relationships, access and car parking problems, scattered departments, including consideration of moving some services off site to lower cost locations or to industrial estates.

Level II: Unit- and district-wide rationalisation, including centralisation of facilities, site disposals, development of alternative services, etc.

Level III: Regionally led inter-district rationalisation and intra-regional service changes. This has tended to be concentrated on regional acute specialties or large institutional rundown.

A potential fourth level, that of a pan-London input to strategic change and service rationalisation has never taken place. Considerable activity has taken place at levels I and II and some means, within or without the internal market, must be found to allow work to be done at levels III and IV.

London has indeed suffered from parochialism in the major investment and rationalisation decisions that have been taken in the past; examples might be the timid relocation of major teaching hospitals too close to the centre; the failure to look for common provision of support services such as pathology or staff residential accommodation in order to rationalise volume and keep down cost; failure in all but a few cases to limit investment decisions on teaching and general hospital services with those made within the postgraduate hospitals; and failure to consider rationalisation of specialist services between major teaching centres, and concentration instead on rationalisation between a teaching

centre and linked non-teaching acute or sub-acute facilities.

The key strategic issues for any such review should include the following.

- The question of whether to start from what is happening on the ground now, and to decide to use and build on present changes and initiatives as far as is possible. Scrapping everything and starting again is not realistic.
- How far it will be possible or desirable to develop a strategy for London that is not wholly dependent on very large capital projects.
- Whether the Thames regions are jointly able to target part of their capital allocations on key projects to unlock agreed change.
- Determination of a vision of the acute hospital of the twenty-first century. This will probably include a smaller inpatient core which uses expensive high technology support services, much larger day care provision than has ever been built yet, and the substitution of patient hotel provision.
- Ensuring that the sizing of hospitals is scrutinised in the light of changing patterns of care; and that space use in existing buildings is challenged as in the national estate utilisation projects. Both approaches could result in less physical provision in total being required.
- Making sure that the postgraduate hospitals are brought into the strategic review process.

Service needs must ultimately predominate over those of the estate. It may be that a framework such as that put forward by South East Thames for its acute services is a helpful starting point. If one looks for a pattern of general hospitals serving populations of 300,000+ with smaller centres undertaking elective work there is overprovision in London. The populations of the districts served are shown in Table 7.1.

Together each site serves an average 103,000 population. If one major acute site were to serve 300,000 population there would be a need for eight sites instead of the present 24. Some smaller sites for elective work would be needed but far fewer than exist at present.

Present rate of provision is one acute bed for every 190 people. A catchment population of 300,000 would thus have 1580 beds supporting it at present levels of provision. However, increased day surgery, use of patient hotels, community based care and continuing reductions in lengths of stay and utilisation levels make this figure a considerable overprovision. The potential impact of these changes requires to be modelled, but a scenario of the major acute hospital of 700+ beds supported by a smaller unit of 200–400 beds can be envisaged.

From Table 7.1 the hospitals with vulnerably small catchment populations appear to be the Royal Free, The London and St Thomas'. The teaching hospital with the smallest bed complement is the Middlesex. Other sites that appear vulnerable are St Charles', Mile

Table 7.1

London hospitals and existing catchment populations served

No. district	No. of general acute hospital sites	Hospital	Bed complement	District population
1 Parkside	3	St Mary's W2	566	373,000
		St Charles'	363	
		Central Middlesex	665	
2 Riverside	2	Charing Cross	732	287,700
		Westminster and Chelsea	665	
3 Hampstead	1	Royal Free	869	108,400
4 Bloomsbury and Islington	4	Middlesex	397	
		UCH	548	265,000
		Whittington and Royal Northern Hospitals	603	
5 City and Hackney	2	St Bartholomew's	588	193,300
		Homerton	458	
6 Tower Hamlets	2	The London	620	161,800
		Mile End	273	
7 Camberwell	2	King's College	568	210,500
		Dulwich	446	
8 Lewisham and Southwark	3	Guy's	836	316,300
		Lewisham	439	
		Hither Green	305	
9 West Lambeth	1	St Thomas's	789	161,000
10 Wandsworth	2	St George's	1,050	188,200
		Atkinson Morley	92	
11 Greenwich	2	Greenwich District	718	219,300
		The Brook	507	
Total	**24**		**13,097**	**2,485,200**

End, Hither Green and Atkinson Morley because of their potentially uneconomic size. Other factors such as condition and location would need to be considered. This crude approach could be developed into a market analysis in two segments, one covering the North Thames provider units and the other the South Thames providers.

In any appraisal of options the estate criteria would require to be fully considered within the context of an overall strategic framework.

Such criteria should include the following:

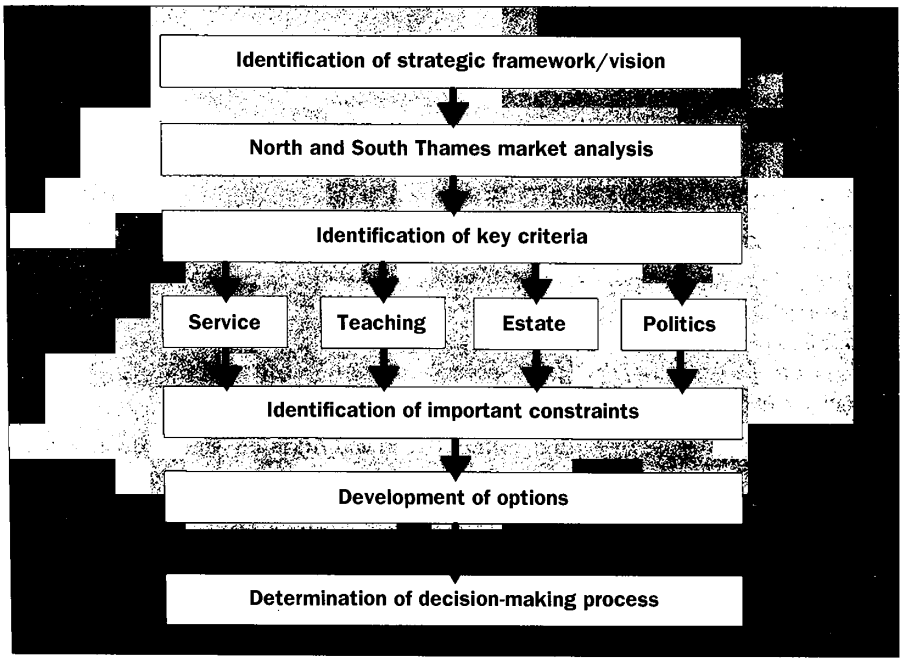
- age of buildings and key functional suitabilities and linkages;
- extent of current backlog in relation to:
  - physical condition;
  - electrical and mechanical services;
  - statutory standards;
  - energy performance;
- site flexibility for expansion, change and redevelopment;
- accessibility and car parking issues;
- existing use and alternative use values of the site;
- scope of buildings for internal change and creation of expanded capability within building envelope;
- overall size of the present hospital, in terms of a minimum critical mass of services and support functions.

The process might, therefore, be a sequential one as shown in Figure 7.1.

This study has attempted to describe the opportunities and problems that confront the estate in London and to put them in the context of the Thames regions as a whole. It has not been possible to analyse every hospital in detail, but examples have been used in order to draw more general lessons, and to illuminate what it is like to be in charge of "managing the miracles".

Figure 7.1

Strategic framework for appraisal of options



King's Fund London Initiative

Working Paper No. 11

London's Legacy: Aspects of the NHS estate in London was prepared to inform the work of the King's Fund Commission on the Future of Acute Services in London. It is being published in advance of the Commission's strategy for London in order to inform debate about the future of health care in the capital. This paper should not, however, be interpreted as in any way anticipating the recommendations of the Commission's final report.

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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