NHS Estate Management and Property Maintenance
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LONDON: HMSO
Preface

The Audit Commission became responsible for the external audit of the National Health Service (NHS) in October 1990. The Commission's auditors will review the financial accounts of all health service bodies, but much of their work will be concerned with economy, efficiency and effectiveness in the use of resources. Each year several health service topics will be selected for special study by the Commission and a national report published on each. The topics will then be investigated in every health authority in England and Wales by local auditors appointed by the Commission, who will prepare a report for each authority and its managers. These reports will be prepared according to a standard protocol described in a separate Audit Guide, which is available from the Commission.

NHS Estate Management and Property Maintenance is the third report to be published by the Audit Commission for the National Health Service. The condition and utilisation of the NHS building stock are unsatisfactory, and the reforms will change estates management arrangements. Maintenance expenditure varies considerably between district health authorities. The Commission therefore decided to identify the barriers to progress and to suggest what might be done to overcome them.

This study was carried out by a team led by Geoffrey Rendle under the direction of Doug Edmonds, both of the Audit Commission. The team included three management consultants, Bert Benham, Philip Blake, and Chris Webber, with support from Maria Orme and Karen Sambell of the Audit Commission. The study team visited several district and regional health authorities to obtain data and discuss management arrangements. An Advisory Group drawn from the Department of Health and the National Health Service has met throughout the study. Many others have also assisted in the work and commented on drafts of this report. The Commission is very grateful for their help. A list of contacts is given in appendix 2.
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NHS land and buildings in England and Wales are valued at about £25 billion. Each year £400 million of major new buildings schemes are completed, and £500 million is spent on maintaining the premises and their associated services. Almost 20,000 maintenance staff are employed and £150 million of routine work is commissioned from private contractors.

The NHS reforms will have a profound effect on estate management. The introduction of capital charges will make clear, for the first time, the true cost of using property. Simultaneously the separation of purchasers and autonomous providers will radically alter the management arrangements for the estates service. Units and trusts will need to ensure that they can discharge the full range of estate management duties once the districts become purchasing agents. The NHS will also need to make provision for the long term integrity of the estate.

The NHS faces a maintenance backlog of about £2 billion. This includes expenditure required to meet statutory and safety requirements in respect of waste incineration, fire precautions, the control of substances hazardous to health, and legionella prevention. Some of these expenditure needs will disappear as long stay institutions are closed consequent upon the switch to community care for the priority groups. But a residual expenditure requirement of £1.7 billion will remain. On present expenditure trends, new building work, renovation and rationalisation schemes are projected to remove a further £300 to £600 million over the next five years, but the continuing effect of the ageing process on existing buildings means that the overall backlog will not fall nearly so fast.

A key factor in eliminating this backlog is improved utilisation. Property is a dynamic resource which should be adapted continually as populations change and clinical practice advances – permitting for example shorter stays in hospital and increasing use of day surgery. The Estates Directorate of the NHS Management Executive have undertaken six pilot projects which have shown that a creative examination of the local estate can reduce estates overheads and the costs of health care without affecting service standards. If the conclusions of these projects apply nationally (despite the very different situations that districts face), an estimated £300 million per annum could eventually be released, confirming an earlier estimate reported by the National Audit Office. However the need for pump priming investment means that in the earlier years there would be a negative cash flow.

At a local level each unit or trust should prepare a maintenance plan which would identify the stock that is to remain in use, its backlog and the investment that is planned. Utilisation should be examined with a view to freeing resources to close any maintenance gap.

Units and trusts must also ensure that they have the estates support available either from within their own management staff or through some other arrangement. Rationalisation of the estate often can best be effected by changes between rather than within hospitals and units. Regions and districts will need to ensure that such opportunities are not neglected.
Maintenance customers are generally satisfied with the speed and standard of day to day maintenance, but efficiency could be improved so as to make some funds available to help to meet the backlog. In some units the volumes of planned preventative maintenance are higher than is necessary for reasons of safety or efficiency. The local control of maintenance also merits greater attention. Sickness levels among maintenance workers are too high in many units as is the amount of unproductive time. Few districts are aware of in-house production costs. Small contracts are let on a day works basis and so their value for money is also unknown. Units and trusts should introduce schedules of rates and measured term contracts for routine maintenance as the basis of competitive tendering. At present the dividing line between in-house and contractor's work is based on historical practice rather than comparative performance.

Units could improve their efficiency if the allowances that are determined by the national labour management system could be locally negotiated. However, local controls would need to be improved before local flexibility could be introduced successfully.

The efficiency of routine maintenance is the responsibility of unit works or estates officers. But unit general managers should monitor key items such as sickness, planned preventative maintenance, unproductive time and production costs. In this way resources may be identified which may best be used to help to bridge the long term maintenance gap.

Auditors will be helping to identify local action aimed at improved utilisation and will encourage units and trusts to formulate a maintenance plan. They will also examine the performance of the routine maintenance service principally by computing and comparing unit production costs.
Introduction

1. The NHS in England occupies about 1,700 hospitals as well as a range of small buildings such as day hospitals, clinics and health centres, staff accommodation, ambulance stations and offices. In 1990 the value of this estate was put at £24 billion for capital charging purposes. The estate in England comprises about 30 to 40 million square metres of building space and 15,000 to 20,000 hectares of land. And in Wales the estate includes about 180 hospitals, and comprises about 1.8m sq. metres of building space and 1300 hectares of land. At December 1989 its 'existing use' value was about £700m.

2. These capital assets incur substantial running costs: maintenance, cleaning, rent and rates, and energy together amount to more than £1 billion per year. This represents about 10% of total hospital costs (Exhibit 1), and about £40 per year per square metre of building area. In addition there is the cost of the capital employed which will be highlighted when capital charges are introduced. Property will then account for 20% of the total revenue costs. These costs are largely determined by the size of the estate rather than by hospital workload.

Exhibit 1

PROPERTY RUNNING COSTS
Capital charges will highlight the cost of holding NHS property

Note: Excludes capital charges for movable assets, estimated at a further £500m pa approximately
Source: (Revenue expenditure) HA Accounts, England, 1988/89
(Capital maintenance) Site visits

3. These figures include the maintenance costs which arise at irregular intervals for large jobs – such as re-roofing – which have been accounted for as capital expenditure. There is no readily available estimate of the exact sums involved, but the districts visited in this study were typically spending between £200,000 and £600,000 from capital on maintenance in 1989/90.

4. Maintenance of much of the NHS estate has been inadequate. Some 40% is now classified by districts as 'in poor condition' and needing substantial remedial capital expenditure.
5. The British Social Attitudes Survey* showed that 61% of people considered it important to improve the condition of NHS hospital buildings. Only NHS waiting lists and times, and staffing levels, generated greater concern.

6. The work required to bring buildings and services to standard is commonly termed backlog maintenance, which the NHS estimates to be about £1.8 billion for England and £160m for Wales. The condition of individual districts’ stock varies widely. The backlog is particularly high in West Midlands and South East Thames regions, who reported averages of more than £85 per m² compared to the national figure of £50 per m².

7. Backlogs can be dealt with in a number of ways:
   (i) by upgrading to improve the condition;
   (ii) by replacing with new build;
   (iii) by closing buildings that are surplus to requirements, especially those with outdated facilities or those being replaced under the care in the community programme.

8. Despite the efforts made by the NHS to reduce surplus land and buildings, the Körner returns show at least superficial evidence of considerable surplus in some districts; for example there is wide variation in the building area per patient day (Exhibit 2). Some of this variation is due to the design and function of the buildings. But two further factors contribute to this variation: the space provided (per bed) and the bed occupancy.

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Exhibit 2
THE ESTATE SIZE IN RELATION TO PATIENT CARE
There is wide variation in the building area per patient day

Source: DoH Performance Indicators, 1988/89

9. Property should be regarded as a dynamic resource. Needs will change in response to changing volumes and patterns of health care. Day case surgery is increasing (expenditure on day cases has nearly doubled over the past 11 years) and should expand further**. At the same time there has been a steady decline in the average length of stay of inpatients made possible by changes in clinical practice (Exhibit 3). As a result the number of beds in acute hospitals has

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* Social and Community Planning Research, 1990
** The opportunities for expansion are described in the Commission’s recent publication ’A Short Cut to Better Services’, HMSO, 1990.
Exhibit 3
THE CHANGING PATTERN OF HEALTH CARE
Expenditure on day cases has nearly doubled over the past 11 years

The number of beds in acute hospitals has declined – particularly in smaller hospitals...

Note: The figures are adjusted for NHS pay price inflation. The sudden fall in 1987/88 is due to a change in definition.
Source: Department of Health

In surgical specialties there has been a steady decline in the average length of stay of in-patients.

...and large mental illness and mental handicap hospitals have been closing.

Note: Figures also include geriatric and maternity sectors

Source: DHSS-NHS Hospital activity statistics, 1974-1986
declined, while at the same time mental illness and mental handicap hospitals have been closing (Exhibit 3). Despite these changes there is still surplus space available. If the six recent estate utilisation studies sponsored by the Department of Health (DoH) are typical of the national picture, then across the whole estate £200-£400 million per year could eventually be released by better space utilisation.

10. The NHS reforms will focus greater attention on utilisation. With the introduction of capital charging property related costs will amount to 20% or more of total costs. Estate utilisation will affect the property overhead element of treatment costs. Where space is wasted, property costs will fall upon fewer treatments. Competition will highlight these differences, but given the independence of provider units and NHS trusts, the necessary improvements will not always be easy to achieve.
1. Estate Management

11. This Chapter describes the management of the estate and the financial arrangements. The current problems of utilisation and the backlog of estate maintenance are then analysed and solutions identified.

MANAGEMENT AND FUNDING

MANAGEMENT ARRANGEMENTS

12. Estates personnel are employed at the Department of Health and at region, district and unit level. Their roles vary; some regions have delegated more responsibility than others to their districts, and the announcement of the NHS reforms has increased the pace of change. The following overview of the functions carried out does not apply in detail everywhere but will assist understanding of the management issues.

13. The Department of Health has a vital influence on NHS estates. The Department determines the regions’ capital allocations and has the final say on major capital schemes. Through the Estates Directorate it collects information and issues guidance across the whole range of estates matters. It has actively promoted property review and provided a framework for maintenance management. From April 1991 the Directorate is to become a 'Next Steps' Agency.

14. Arrangements in Wales are different. There is no separate regional tier in Wales. As well as mirroring the DoH’s role the Welsh Office allocates capital to districts and is responsible for service planning. Some of the professional functions of English regions lie with the Welsh Health Common Services Authority. Responsibility for the Welsh estate is delegated to District Health Authorities, although the property is vested in the Secretary of State for Wales.

15. Performance reviews are held annually between the department and regions, and then between regions and districts. This provides a mechanism for carrying forward Departmental concerns throughout the NHS, although specific estates matters are rarely reviewed.

16. Regional estates officers are primarily concerned with the capital programme. Their role is changing, and there are considerable variations from region to region. But as a generalisation their staff have four broad roles:

— Planning. Regional estates provide a professional link between service planning and the built environment. They collate and disseminate information to support the process.

— Appraisal. They give estates guidance to their districts on the format and content of capital bids and then assess the merits of competing schemes. Regions discuss the larger schemes with the Department (normally only schemes greater than £10m).

— Advice. Regions provide specialist expertise in such fields as energy management and health and safety. They also develop the local interpretation of Departmental guidance.

— Professional services. Although practice varies regions tend to deal with major disposals. Also they tend to prepare the briefs for major capital schemes (e.g. those greater than £1m).
though some districts now manage this activity. In the past they have also designed the buildings and supervised the contracts. Following instructions from the NHS Management Board these functions are being hived off into the private sector or into separate agencies which increasingly will have to compete for much of their work. As a result the numbers employed at regional level have fallen substantially.

17. District Estates Officers and their staff advise the District General Manager (DGM)* on all aspects of estates policy. They monitor the condition of the stock, argue for the needs of the stock when the local capital programme is determined and manage the smaller elements of the capital programme including acquisition and disposal of some smaller properties. They provide the estates input into the local strategy and business plan. They are also concerned with the quality of the physical environment, and with health and safety issues including legionella and fire precautions. As with regional estates, some of these staff have begun to form agencies as the role of districts begins to change as a consequence of the NHS reforms.

18. Unit Estates/Works Officers usually report direct to the Unit General Manager (UGM) but are professionally accountable to the District Estates Officer. They manage the maintenance work force and specify and supervise the minor schemes carried out by private contractors. They provide the UGM with bids for minor capital and will supervise the eventual programme. They are responsible for the hospital’s engineering plant (lifts, boilers, medical gases etc) as well as building maintenance. Most have an engineering background.

19. The NHS reforms will change these management arrangements. The present hospital units will become either directly managed units (DMUs) or NHS trusts. Both will be responsible for the management of their estate. Many, if not all, of the duties of the present District Estates Officer will be devolved to unit/trust management. These duties include property management and quality standards; control of building and engineering projects in line with standing instructions on finance and tendering; reviewing and applying estates data systems; and developing an estates strategy in association with service managers. A good grasp of local authority planning procedures will become increasingly important. Lack of liaison has already undermined a number of districts’ estates strategies. And at region, estates officers are no longer normally in the top management tier. As a result estates issues may feature still less prominently in reviews both with the DoH and with their districts.

20. The new patterns of responsibility have generated a wide variety of proposals for reorganisation. These are discussed in paragraphs 71 to 75.

21. In the longer term the management of estates may depart further from current practice. Providers may choose to procure all of their estates support from the private sector. Furthermore, trusts will be free to set their own pay and conditions and will not have to retain for example the Labour Management System for maintenance staff. However such changes are likely to come about slowly because of the many more urgent issues to be faced, such as the development of business plans and arrangements for charging under service contracts.

* A Glossary of abbreviations and special terms is provided at the end of the report.
22. At present, maintenance work is funded from both revenue and capital. The distinction is based on the size of the job: schemes over £15,000 are charged to capital, and schemes under £15,000 to revenue. From 1991/2 onwards, this definition will be changed. All expenditure on maintaining capital assets in effective working order or good repair will be charged to revenue whatever the cost. Exceptions will arise only where the repairs include an element of enhancement.

23. Capital funds are provided by region both for individual projects approved by the region, and as a block allowance for districts to use at their discretion. This district 'discretionary' element typically accounts for 20% of the regional capital programme. The larger, more complex schemes are funded directly by region (although scheme management is often delegated to the district). Smaller schemes are usually met out of district's discretionary capital, and capital maintenance projects usually fall in this category. Once again management may be delegated down one level to units if appropriate skills exist there.

24. In the past capital has been a "free good". Until the introduction of capital charging in April 1991 capital financing costs will not be charged to the revenue account. Revenue funding of unit activities is intended to cover recurrent needs and therefore each budget allocation tends to be reviewed only incrementally year-on-year. Capital funding however is bid for against specific projects, and each large maintenance scheme has to compete for funds against bids for building extensions and purchase of vehicles and computers.

25. A few regions 'ringfence' part of their capital for backlog maintenance. However, these sums tend to be small in relation to the overall backlog, say £0.5m per district. In other places, districts' discretionary capital is being reduced due to falling land sales and commitment to new build.

26. The NHS retains all proceeds of asset sales. Receipts from the sale of land and buildings are returned to regions as delegated owners of the property. Regions have the power to use these sums to supplement their capital programmes, though they must return a significant part of the proceeds (net of the cost of associated new facilities) to the originating district*. These arrangements have served two purposes. They have given districts an important incentive to make arrangements for disposals; and they have provided funds out of which districts can develop their estates strategy. In the future, the reduction in capital charge will provide a new and powerful incentive for units to dispose of surplus property. But providers will still need to know how much of the proceeds will be returned to them. Sales proceeds often form an integral part of local estates plans, allowing upgrading work to be funded and new facilities to be provided.

27. In recent years, disposals of surplus land have reached 400ha to 500ha per year; sales proceeds were growing dramatically until the market downturn in 1989/90 (Exhibit 4). At April 1989 at least a further 2,000ha of land had been identified as surplus (or potentially surplus) by health authorities in England. This represents 10% of the total land holding. Planning constraints will limit the value of much of this property.

28. Although the distinction between revenue and capital maintenance is an artificial one, it has had considerable impact on the type of work undertaken. Capital and revenue funds are

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largely separate sources of money. The DoH allocates them as two separate sums to regions, who have limited powers to transfer money between them. (Up to 10% of the capital allocation may be used for revenue purposes, or alternatively up to $\frac{1}{2}$% of the revenue for capital purposes).

**CAPITAL CHARGES**

29. The reforms will change the method of capital allocation. Trusts will receive their capital allocations direct from the DoH, and regions’ only role will be to comment on trusts’ allocations in exercise of their overall responsibility for health care.

30. The reforms also require every unit to pay a capital charge on its assets starting April 1991. Registers of assets have been compiled and the district valuer (DV) has valued all land and buildings in operational use on the basis of market value for current use. (In the case of land and buildings surplus to requirements, the valuation is at market value for alternative use.) Land and buildings are to be revalued every three years. Charges for assets are to be formula based. The charges comprise a sum representing the desired return on the capital employed (6% of this valuation) plus a straight line depreciation charge on all buildings and equipment, but not on land.

31. The depreciation charge relates to past capital expenditure and does not create a fund for asset replacement. Funds will circulate between purchasers and providers to reflect the value of the providers’ asset base (Exhibit 5). When full capital charging comes into force, hospitals with higher capital charges will have less money available for revenue services. But in the first few years some ‘tapering’ is to be allowed; that is to say, districts whose units attract very high capital charges will receive additional funds so as to ease in the new arrangements.

32. The capital charge will encourage units to examine their asset utilisation. They are likely to seek improvements by a combination of selling more services to either the NHS or the private sector, by using space for income generation purposes or by disposal. They will also consider the effect of charges arising from any new capital expenditure upon their revenue costs. This implies that districts should already be calculating the effects of any planned capital

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Exhibit 4

**SALES OF NHS LAND AND BUILDINGS**

Proceeds were doubling every two years until the market downturn in 1989/90

![Graph showing sales of NHS land and buildings](image)

*Source: HA Accounts, England*
Exhibit 5

CHARGES FOR CAPITAL

Funds will circulate between purchasers and providers to reflect the value of the asset base expenditure in terms both of new charges and lost charges arising from asset disposal. Few if any of the districts visited by the study team in the first half of 1990 had begun to do this.

33. Capital charges will increase the reported costs of the estate in health care provision from about 9% to about 21% of total costs. There will be wide variations between units, reflecting both the size and the value of their estate. National averages will be approximately as in Table 1:

Table 1
PROJECTED COSTS OF THE NHS ESTATE

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<tr>
<td>1. Capital charge (land and buildings)</td>
<td>12.0%</td>
<td>£60 per sq metre</td>
</tr>
<tr>
<td>Maintenance</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td>3. Rates</td>
<td>1.6%</td>
<td>£40 per sq metre</td>
</tr>
<tr>
<td>4. Energy</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>5. Cleaning</td>
<td>2.5%</td>
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Total estates costs 21% of total revenue

Notes:  
(i) This analysis is based on 1988/89 expenditure; it ignores the prospective introduction of the National Non-Domestic Rate on NHS property, the effect of which is not yet clear.  
(ii) Movable equipment attracts further capital charges of about 3%.

34. The size of the capital charge on a building will depend on how well it has been maintained. A building in very poor condition will receive a lower valuation but this will be depreciated over a shorter remaining life. It is not yet clear how the valuation and remaining life will interact to affect the capital charge, and hence whether there is any penalty (in the form of a higher capital charge) for failure to maintain a building.

PROBLEMS

35. The NHS is confronted with two strategic estates problems: stock utilisation, and stock condition. The two can only be solved efficiently if considered together.
UNDERUTILISED PROPERTY

36. The DoH has actively promoted property review. In 1983 it published a major review of NHS Estate Management ('Underused and Surplus Property in the NHS', usually known as the 'Ceri Davies report'). Major themes of the report were the need for better property information, and a proposal to charge notional rents which would heighten awareness of the estate; to ensure that action was taken, local management responsibility needed to be clearly identified and strengthened.

37. The report led to the appointment of a Property Advisor to the NHS and to the preparation of an Estate Code. The code guided districts on best practice in the review and management of their estate. In particular it promulgated the 'seven steps to heaven' which dealt with the review of the estate and the formulation and execution of a plan for estate rationalisation (Exhibit 6).

Exhibit 6
ESTATE RATIONALISATION
The Department of Health has identified seven steps to property review

38. The Department has undertaken particular studies of estates utilisation in conjunction with local management. It examined the estates needs of Merton, Sutton and Wandsworth Area Health Authority. The review showed that the acute services provided from two small sites could be consolidated, resulting in savings of around half a percent of district revenue from this single small scheme. Other similar schemes initiated by Merton and Sutton DHA have produced substantial further savings.

39. This study gave its name to 'Mereworth' which codified the Department's approach. Through the NHS Training Authority, the Department encouraged all districts to apply the 'Mereworth' principles of estate planning (Exhibit 7). Some regions have made this approach mandatory and about 30% of districts have undertaken the exercise with varying degrees of thoroughness and success. The key to Mereworth is the integration of finance, staffing and estates
Exhibit 7
'MEREWORTH' PRINCIPLES OF ESTATE PLANNING
Integration of finance, manpower and estates strategies is the key to success.

Source: 'Mereworth' manual, DHSS et al

issues; after an initial phase of data collection to establish "Where are we now?", the top tier of district management spend some days out of the office identifying "Where do we want to be?" and "How do we get there?".

40. The National Audit Office (NAO) also examined the use of the estate and published 'Estate Management in the National Health Service' (HMSO, 1988). They concluded that:
— although districts had begun to set up property databases, the reliability of condition surveys was dubious and there was little information on space utilisation or the costs of bringing the estate up to statutory standards;
— there was considerable scope for further rationalisation of property; reasons for slow progress included problems with capital development, funding, planning and information; and
— there was not generally any strategy for addressing backlog maintenance.

The NAO report gave prominence to the potential savings from further rationalisation. The annual revenue savings were broadly estimated to be between £300m and £500m.

41. One of the Department's responses to the Public Accounts Committee, which received the NAO's report, was to commission six estate utilisation projects. These examined the existing estate in six districts and sought to identify the best mix of new build and upgrading so as to provide an estate matched to service requirements.

42. These projects emphasise the potential of estate utilisation. Under-utilisation of occupied space is at least as important as empty space. The six projects, taken together, have confirmed the earlier estimate that about £300m pa remains to be released if the lessons learnt apply across the whole NHS. These savings can be made for no reduction in function or service, provided health authorities take the opportunities seriously. Indeed, estate rationalisation can have a positive effect on health care provision; it can release finance for upgrading the remaining premises to modern standards in line with service and patient needs.
THE MAINTENANCE BACKLOG

43. Along with the slow progress on property review, the condition of the existing stock continues to be of concern. Health authorities are required to classify their buildings as:

A up to new build standards
B reasonable and adequate
C poor condition, requiring capital investment (but not more than 50% of the replacement cost)
D very poor condition, requiring even higher capital investment.

They are also required to estimate the cost of bringing their entire estate up to an acceptable physical condition (i.e. up to condition B).

44. There is uncertainty about the true size of the problem. Some districts' estimates of the cost of remedial works have been somewhat rough-and-ready, and many have failed to involve user managers. But there is no doubt that backlog maintenance is a serious problem. There are various types of work involved, ranging from neglected external redecoration to major reroofing and reflooring. Buildings affected range from Victorian institutions to acute hospitals constructed in the 1960s and 70s.

45. As well as suffering from past under-maintenance, the NHS has been required to bring buildings up to modern standards in such areas as fire precautions, kitchens (where Crown Immunity was withdrawn in 1987), Legionella prevention, and Control of Substances Hazardous to Health (COSHH). New standards on waste incineration are also to be introduced. The DoH was aware of these needs when the capital allocation was negotiated with HM Treasury, but no specific funds for these improvements were earmarked. Much of the improvement work has still to be carried out. Many districts have included this work in their estimates of backlog maintenance, and as a result it is difficult to identify the money required to meet modern standards. However the total required for backlog maintenance and the condition upgrades is around £2 billion, according to Körner returns. Exhibit 8 shows details of the work (amounting to about £1.5m) identified just at one 500-bed acute hospital.

Exhibit 8
BACKLOG MAINTENANCE
Work required at a 500-bed General Hospital

<table>
<thead>
<tr>
<th>Work Required</th>
<th>£000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated backlog</td>
<td></td>
</tr>
<tr>
<td>Ventilation system</td>
<td>350</td>
</tr>
<tr>
<td>Reroofing and reflooring</td>
<td>260</td>
</tr>
<tr>
<td>Redecoration – backlog</td>
<td>200</td>
</tr>
<tr>
<td>Ceiling works and rewiring</td>
<td>100</td>
</tr>
<tr>
<td>New standards</td>
<td></td>
</tr>
<tr>
<td>Fire precautions</td>
<td>250</td>
</tr>
<tr>
<td>Legionella</td>
<td>250</td>
</tr>
<tr>
<td>Hazardous substances (COSHH)</td>
<td>100</td>
</tr>
<tr>
<td>Kitchens</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>1,540</td>
</tr>
</tbody>
</table>

18
46. There is considerable local variation (Exhibit 9); some individual districts have reported backlogs of double or treble the median figure, amounting to over £80/m in about 20% of cases. This variation is not related to indicators of utilisation (Exhibit 10). The size of the backlog is more likely to be a function of past investment levels. Some districts are addressing the backlog but elsewhere the position is probably deteriorating.

Exhibit 9
THE SIZE OF THE BACKLOG
About 20% of Districts reported backlogs greater than £80/m

Exhibit 10
BACKLOG AND BUILDING UTILISATION
The condition of a District’s estate is unrelated to utilisation

47. Current maintenance levels seem unlikely to make much of an impact on this backlog. The revenue budget (£2m pa for an average district) largely covers jobbing repairs, preventative work, painting, and minor works, and little of this is aimed at reducing the backlog. Hitherto
backlog works have been mostly financed out of capital. Information is not summarised nationally, but at the districts visited about £0.3 million average capital per annum was being applied to maintenance. This is barely enough to keep pace with "wear and tear" since it is under 1% of the value of the buildings and services.

48. There are a number of factors which will reduce the total maintenance backlog over the next few years.

— *The community care programme.* The backlog in facilities for the mentally ill and mentally handicapped is about £0.4 billion. Much of this will disappear as the development of the care in the community programme continues. But the pace of change will depend on the pump-priming capital allocated to these client groups.

— *New build.* Total capital expenditure in the NHS is running at about £1,100m per annum. Each year around £400m of this is spent on major new facilities which provides 4,700 new beds per annum. This is 1.6% of the total stock and so it should be possible to replace about 8% of the stock over a five year period. It is not possible to forecast the condition of the buildings that will become surplus as a result. If they are of average condition, about £150m of the backlog would be eliminated; but many of the poorest premises have twice the average backlog, so the amount eliminated may be nearer £300m.

— *Reductions in bed numbers.* Over the same five years, if present trends continue, a further 8% of acute beds will close, again removing perhaps a further £150m to £300m.

These three factors imply a residual backlog of over £1bn (Table 2).

**Table 2**

<table>
<thead>
<tr>
<th>£ million</th>
<th>£ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is 2,100</td>
<td>estimated backlog</td>
</tr>
<tr>
<td>of which 400</td>
<td>is in large non-acute sites</td>
</tr>
<tr>
<td>and 150-300</td>
<td>is in acute sites due for closure</td>
</tr>
<tr>
<td>and 150-300</td>
<td>to be replaced by new acute hospitals</td>
</tr>
</tbody>
</table>

leaving £1,100m-£1,400m as a long-term problem

49. In summary therefore the cost of the remaining backlog and the requirements of current building standards amount to over £1 billion. At current expenditure levels, this figure is unlikely to reduce. There are several barriers to be overcome if progress is to be made in addressing this problem.

**BARRIERS TO PROGRESS**

50. Many factors have contributed to the accumulating problems of the estate: the emphasis on new build, with insufficient attention to refurbishment options in investment appraisals; the absence of strategies for development of the estate in line with the district’s requirements; the practical difficulties in convincing the parties affected; and the shortage of pump-priming funds.
EMPHASIS ON NEW BUILD

51. Historically, new build has been seen as the primary solution to the problems of the estate. In the 1960s, the government's 'Hospital Plan for England and Wales' aimed for the substantial rebuilding of over 200 hospitals within 10 years. This aim was well received by the Service and helped the medical profession to concentrate their facilities and expertise on single sites with modern equipment. New build was seen as the solution to most estates problems, especially as there was no rent or interest on capital to be paid for the privilege. Studies of utilisation and adaptation of existing stock ran counter to this approach and were even perceived as undermining the force of a district's bid. Estates professionals were not greatly involved in these plans.

52. New build represents an ideal solution where premises are in poor condition and ill-adapted to modern requirements. However in recent years new building has replaced less than 2% of NHS beds per year*. New build proposals should have regard to the stock already available. The mandatory option appraisal process should be used to ensure this is done. In practice, refurbishment options have often not been thoroughly investigated. The most effective way to use the limited amount of capital available is to link it to an overall strategy on property utilisation. This approach will also mitigate the effect of high capital charges which would otherwise emanate from totally new developments.

LACK OF STRATEGY

53. The planning process at districts and regions has usually been service led. Planners have often been predominantly concerned with the switch to community care and the development of new facilities to accord with demographic trends and service guidelines. Many districts have not implemented Mereworth principles and as a result there is no realistic long-term plan for dealing with maintenance backlogs. Moreover estates issues have often not been prominent in the national and regional review processes.

PROCEDURAL PROBLEMS

54. The re-organisation of a district's facilities is complicated by the many players involved. The DGM must be convinced and able to win the commitment of medical and non-medical staff. But estates problems have not had a high profile with some general managers (the same is true outside the NHS), and the traditional District Works Officer has often lacked the authority needed to carry the topic forward.

55. Consultation procedures and public opinion can also delay progress on estates utilisation. Political pressures can be brought to bear, and the Secretary of State can have a difficult judgement to make as the final arbiter on objections. Communities are understandably defensive about their local hospital. Public concern often centres on the loss of wards or other facilities, and not directly on the volume of health care that will be delivered. There has sometimes been a failure to publicise the benefits of estates rationalisation. Changing practices such as shorter stays in hospital (Exhibit 3) mean that the same level of health care can be provided from progressively fewer beds. So rationalisation can often provide a better service from an upgraded estate. And as populations change, the pattern of provision needs to be adjusted accordingly.

* Based on central returns for schemes costing over £1 million started between 1986 and 1989.
FINANCIAL LIMITS

56. Rationalisation has been delayed by financial as well as procedural problems. Money usually has to be invested to facilitate moves on the estates chessboard. (For example, it may not be possible to close an outdated building until improvements are completed elsewhere, allowing patients to be moved out.) But until the NHS reforms capital was a free (if limited) good. The cost of capital was not reflected in the revenue accounts, and so the best mix of capital and running costs was not always achieved.

57. Capital programmes have been particularly affected by the recent downturn in land prices. The Thames Regions had boosted their capital programme in line with the property boom but are now having to cut back severely. NE Thames Region for example had originally planned on receiving £51m capital from land sales in 1990/91; the estimate was later reduced to £24m, but even this will not now be realised.

FUNDING ISSUES

58. Clearly there is insufficient funding to cover both the maintenance backlog and the whole range of desirable new developments. A judgement has to be made about the balance between the two. However, the processes whereby capital is allocated are complicated and none of the parties involved is in a strong position to control the overall balance between maintenance and new development. Indeed it is difficult even to estimate how much is being spent on maintenance as distinct from improvements and extensions. Data from the sites visited suggests that the large maintenance schemes funded from capital amount to under one per cent of the value of the buildings (say £0.3m per district on buildings worth £70m). It is far from clear whether such a small percentage (if typical of the national position) would actually cover even the 'fair wear and tear' work. And as discussed above, it is unlikely that revenue-chargeable work currently makes a significant further impact on the backlog.

59. However revenue maintenance could be more effectively managed and provide funds for the backlog in that way. Two- thirds of this revenue budget is for labour and materials for the in-house workforce who provide a jobbing and preventative maintenance service. This revenue budget is managed at unit level, and is usually thought of as quite separate from the funding for major works. But there is evidence that the balance between jobbing maintenance and major works is not right. Interviews with hospital managers usually indicated more dissatisfaction with major works not done rather than with the in-house day-to-day service. In addition, there is evidence in many units of inefficiency in the jobbing maintenance. These inefficiencies are analysed in Chapter 2.

* * *

60. These barriers to progress must be overcome if the estate is to be aligned to service needs and the condition of the residual estate improved. This necessitates more attention to property review, management arrangements and a greater emphasis on the funding of backlogs in future service plans. These issues are explored in the next section.
SOLUTIONS
PROPERTY REVIEW

61. NHS trusts and provider units will all need to produce business plans to define their strategy as the NHS reforms come into effect. Business planning must include the estate, and the process provides an ideal vehicle in which to consider the needs of the building stock in parallel with financial and service plans. This is the essential feature of 'Mereworth', and Mereworth's basic principles remain unchanged. Information is the foundation of the approach, and in the case of the physical assets the questions are simple to pose:

— What do you own?
— What is its purpose?
— What is its utilisation?
— What does it cost to run?
— What is its opportunity cost?

62. Mereworth recognises that revenue and capital will be freed as the estate is better utilised. The business plan should identify how these savings can contribute to the reduction of the maintenance backlog over perhaps the next ten years. It may be that some districts cannot hope to deal with the backlog in this time span. But without a medium-term plan of this sort they will have little basis for seeking extra funds.

63. The plans of some districts are frustrated by the difficulty they have in obtaining pump-priming capital, particularly now that regions are hit by the downturn of property prices. The DoH has recognised the problem and in July 1990 it created a modest capital loans fund of £50m which will be rolled forward as receipts from the earlier projects become available to repay the initial capital loan. Nine of the first ten schemes are connected with the development of community care but there may be opportunities to use the fund in the acute sector at least to supplement current capital allocations.

64. There are some basic principles of property review. They include: getting the right information and using it creatively; involving everyone concerned, starting with the General Manager; and keeping the plans under regular review.

'Information and imagination'

65. In practice many districts have collected much more estates information than was needed to establish and evaluate the alternatives. Detailed surveys of every ward, identifying physical condition, levels of usage, and energy efficiency, produce more data than can be handled in the initial stage. Information might best be collected in two phases: broad assessments to support the evaluation of alternatives followed up later with the detail to take two or three options further. If DHAs were made aware that the information requirements are straightforward then more districts might adopt the Mereworth approach.

66. Estates review is an art not a science. It should not be based solely on simple comparisons of the district with bed provision and space norms. The six DoH Estates Utilisation Projects (paragraph 41 above) have shown that success comes from creativity. At one site the project team was able to show that each in-patient unit was able to accommodate an extra bed
by narrowing the space between beds by two inches. This led to an annual saving to the district of £1m because the nursing complement did not have to be increased and beds could be closed elsewhere. The new layout was agreed with local medical and nursing staff who shared the view that the change was well worthwhile.

'Hearts and minds'

67. All interested parties need to be committed. Reviews undertaken solely by estates and planners are unlikely to succeed. The process needs the general manager to be personally enthusiastic about the opportunities. Clinicians and nurses must be involved too. The data that is collected (see above) must be well presented so that users of the building can quickly understand how the options affect their work. Reviewers should involve the workforce and ask "What's in it for them?" In the above bed space example the ward blocks were refurbished and redecorated and so nurses were able to see benefits to themselves and patients.

68. The community must support the rationalisation proposals and this requires active marketing. Somerset DHA, amongst others, ensured that marketing was an integrated part of the rationalisation process from the first to the last stage. They involved county, district and parish councils, Leagues of Friends, Community Health Councils, community groups, staff and local Members of Parliament. This ensured that the final rationalisation proposals were not a "bolt from the blue" but a logical conclusion from a systematic process. The benefit of the marketing effort was that the final and formal consultation process was a well informed debate where the closure of certain hospitals was not seen as a simple "cuts" exercise, but as a part of the development of better healthcare services throughout the district. The marketing activities took the form of talks and slide shows, press conferences, editorial in local newspapers and a very readable formal consultation document.

69. Some regions could do more to encourage reviews of estate utilisation. Any major capital scheme has to be submitted by the district to the region (and to the DoH if over £10m) for 'Approval in Principle' (AIP). Some regions will only receive submissions if the district has undertaken a Mereworth review. But others regard the AIP system solely as the product of a service plan and take little account of the present estate.

Keeping the plan under review

70. It is all too easy for estate plans constructed on the best Mereworth principles to be left to gather dust. Plans need to be reviewed to check that the assumptions are still valid. For example, one district visited had not updated its five-year old plan even though the throughput of the existing facilities had been improved undermining the original economic justification.

MANAGEMENT OF THE ESTATE UNDER THE NHS REFORMS

71. Managerial responsibilities will change when the NHS reforms are introduced. The Secretary of State will continue to "own" the NHS estate where trusts have not been formed but who locally will discharge freeholder responsibilities such as attending to the long-term condition of the stock? One answer to this question lies in the competitive environment itself. Competition will be in terms of both costs and quality. Units may seek to attract GPs and patients by the quality of the environment. However this incentive might not ensure that longer term
maintenance issues that are invisible to patients are fully considered; its effects may be more cosmetic than structural. Competition may also put pressure on maintenance budgets.

72. Alternatively, purchasers, in seeking value for money, may put pressure on providers to manage their estates efficiently through the medium of the business plan and the contracts for service. Thus trusts as well as DMUs would have to plan not only for the provision of patient services but also for the upkeep of the estate. Purchasers will certainly be concerned about safety in the healthcare environment and about the lifting of Crown Immunity. They may well specify maintenance quality standards under the same heading.

73. The effectiveness of this approach will depend on the relative roles of regions, districts, and units in estate management once the reforms have been implemented. There will be an important monitoring role for regions and ultimately for the Management Executive itself.

74. Estate management involves a wide range of responsibilities which can generate many benefits (Exhibit 11). These functions have traditionally been carried out at district level. Some

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**Exhibit 11**

**THE ROLE OF THE ESTATES MANAGER**

The wide range of estates functions can generate many benefits

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existing estates managers are now concerned that an individual unit will not be able to afford the requisite support, and that some Unit Works Officers who have just concerned themselves with local building and engineering matters will not be capable of stepping up to this wider role. (Similar questions have been raised in respect of other district functions which will be devolved to units and trusts). Various solutions are advocated:

— Some regions are considering the formation of larger units capable of supporting more viable estates and other specialist departments – perhaps by making the whole district a single unit and amalgamating several districts into a single purchaser.
— Other districts are placing the estates expertise in the main acute unit but making its services available to other units on a charge-out basis.

— The Welsh Office is currently formulating proposals for an all-Wales landlord body.

— The fourth possibility is to hive the district estates off as an agency selling its services to the units. Some are extending this into a 'facilities management' service, whereby they would take responsibility not only for estates and maintenance, but also for other hospital support services such as cleaning.

— In the longer term, some units are also considering the introduction of facilities management locally.

Whatever solution is adopted, provider units must themselves ensure they have sufficient expertise to be a 'competent client', so they can procure all the estates services they require.

75. Wherever their expertise is located, estates professionals will still have problems. The six Estates Utilisation Projects and the original Merton and Wandsworth study have together shown that the major gains in utilisation can be made through rationalisation between and not within hospitals and units. Many districts have two DGHs in different units and in some cases the studies have shown that a more cost effective service can be provided by concentrating on one of the sites. In the past many districts have failed to bring such schemes to fruition. Under the reforms it will be no easier to rationalise across provider boundaries, especially where trusts have been formed. But good rationalisation will still be a key to more cost-effective services. Ways must be found whereby joint opportunities can be identified and obstacles overcome.

76. Concern has been expressed over the role of trusts, in particular that those with substantial landholdings may achieve 'windfall' receipts which they will retain as of right regardless of the needs for capital elsewhere. However three safeguards have been provided to protect the wider interest of the service.

— First, the rules for granting trust status provide that any assets that are already surplus must not be transferred to the new trust. Regions will have an important role in policing these rules. If agreement cannot be reached locally, the Secretary of State will issue a direction.

— Second, the Secretary of State has a reserve power to prevent disposals on public interest grounds, and must be informed of intended sales over £1m.

— Third, there is a further reserve power to withdraw exceptionally large profits from the trust's realised reserves in exceptional circumstances such as 'windfall' sales of land.

The Management Executive will need to enforce these conditions when approving the business plans of trust applicants and reviewing their subsequent performance. If early trusts are set up with an over-generous share of the asset base (perhaps because the local health authority has been slow to rationalise the estate as a whole), it may adversely affect the performance and prospects of the remaining DMUs.

77. Radical changes to the control of NHS land and its disposal, and to capital allocation procedures, are being made at a time when the large amounts of NHS land have been identified as surplus to requirements. Many of the more straightforward disposals have already been made; future estate strategies will need to be funded from ever more complex schemes. Increasingly, units must be able to call on high levels of professional support and skill to manage their transactions.
This section necessarily has had a tentative tone. Many aspects of the reforms have yet to be finalised and no-one can be completely sure how the new organisations will function. The major estates issues that the NHS has to resolve are:

— How will units and trusts seek to replace the role performed by district estate staff?
— How can the best utilisation of the estate be obtained given that units and trusts are to be autonomous providers?
— Will applications for trust status be policed so that first-wave approvals do not jeopardise the prospects of later applicants?
— What executive estate management role will remain at regions?
— How will the medium term maintenance of the estate be preserved? Who will discharge the freeholder's functions? Can contracts provide a spur towards a better quality estate?

FUNDING THE MAINTENANCE BACKLOG

The backlog of over £1bn identified above reflects the low priority given to maintenance in the competition for NHS capital. Funds are continually required for new build, service developments, new medical and computer equipment, and the development of community care. Priorities must be determined locally, but whatever the ranking of competing schemes, districts will need make best use of all their resources. Proceeds of property sales (where appropriate), a slight slowdown in new developments, and maintenance efficiency savings, could each make a modest contribution. Combined with improved estate utilisation these could together have a significant impact on the backlog problem.

(i) Proceeds of property sales

Until the collapse in property prices in 1989/90, property sales were running at over £200m pa. At that time at least 10% of NHS land had been identified as surplus (or potentially surplus); this represents a substantial potential resource. But 80% of this surplus is in the mental illness and handicap sectors, and the proceeds from these disposals should normally be reserved for the continuing care of these clients*. Since these are probably the lower value sites, at least £40m per year should be available for other purposes.

(ii) Switch from new build

Because much larger sums are spent on new build than on backlog maintenance, relatively minor movements of funds away from new build would allow maintenance programmes to be substantially expanded. But there should be thorough investment appraisal before resources are committed to either maintenance or new build. Switching 10% of the funds now devoted to major new projects would generate a further £40m each year available for capital maintenance and improvements.

(iii) Maintenance efficiency savings

The analysis of performance in the next chapter suggests that many units should be able to reduce their in-house unit costs by 10% or more, and their workload by a similar amount (by cutting unnecessary planned preventative maintenance), without adverse effects on

* As specified in Estatecode, 'Property Transactions in the NHS', published by the DoH (1989)
the service. These savings (on in-house labour costs of around £200m pa) would amount to around £40m pa.

(iv) Estates utilisation

83. Substantial potential savings have been identified by the Estates Utilisation Projects. If the projects are typical of districts generally, a national total of £200m-£400m per annum may be available. It will take time to release this level of revenue; initial capital investment will be required. Whilst such projects offer an excellent long-term return, the cash flow is negative in early years. Furthermore not all these savings come directly from property overheads; some are generated within areas of clinical expenditure. Local management must decide on priorities for applying the savings and will need to consider how much can be directed to backlog maintenance.

84. Districts vary greatly as to what funds can be generated locally from these four sources; given the variations, some should be on course to address the backlog within their own resources.

85. Solving the backlog maintenance problem is not simply a matter of finance, but will also require action on the part of local managers. Every district, whatever its priorities and resources, should have an estates plan, setting out the utilisation and condition of the stock, its anticipated future use, and the sources and proposed use of finance. At present, major maintenance work is too often planned year-on-year, and seems to pick up residual capital after service-led initiatives have been considered. Business plans provide the framework for integrating the needs of the estate into the authority's strategy.

86. The estates plan must of course relate to the business plan and reflect the provider's service objectives. Estates managers should contribute directly to the business plan. They are familiar with the estate locally; also they can advise on the employment of property consultants on the successes of property management elsewhere in the NHS.

87. Regional health authorities should ensure that business plans do address the need for building maintenance, and that proposed strategies are indeed implemented. They should use the annual review process to do this, and should consider how they might further encourage local managers to provide for the long-term good condition of the estate. The Management Executive itself should take the lead in ensuring that this is done in reviewing the performance of both Regions and NHS trusts.
2. Property Maintenance

THE MAINTENANCE ENVIRONMENT
MANAGEMENT ARRANGEMENTS

88. Bringing the estate into line with service needs is not the only responsibility of estates and works departments. They also have to manage the day to day maintenance of buildings and services. A hospital or health centre is in many ways similar to any other public building, save that exceptional standards of response and safety are often required. Workers are employed or engaged under contracts to carry out jobbing repairs, regular inspection and servicing, and to help keep the site in good long-term condition. The Comission study dealt with these basic engineering and building services, and deliberately excluded the servicing of medical equipment which is often the responsibility of other departments.

89. General maintenance is the responsibility of the Unit Works Department which normally uses a mixture of directly employed labour (DEL) and outside contractors. A 500 bed district general hospital unit for example might typically employ 30 operatives to cover most jobbing maintenance and routine servicing. In addition it might have a budget of £1 million for contracting out more specialised work or jobs which are felt to be inappropriate for the DEL.

90. In most units there is a clear line established between the DEL’s and contractors’ workload. Different units draw the line in different places; for example, some maintain lifts in-house, whereas other use a service contract. Competitive tendering is not obligatory. Health Circular 83(18) specifically required only the laundry, catering and domestic services to be put to competitive tender, although the Circular encouraged DHAs to extend the principle of competition to other services. The DEL is occasionally invited to bid for work in competition with outside firms, but such competitive tendering is very much the exception.

91. The number of maintenance staff employed in England fell by 4% per year from 20,000 in September 1984 to 17,000 in September 1988. And the maintenance share of the revenue cake fell from 4.2% in 1988/9 to 3.2% over the same period. But these reductions mainly reflect the reduced size of the estate, as measured by the 15% drop in available beds.

THE NATIONAL FRAMEWORK

92. Because maintenance is an operational activity, units have to a large extent been expected to organise it as they see fit. Three Departmental initiatives however have given the NHS a common framework within which to manage maintenance:

— Estmancode, published in the 1970s, gave guidelines for controlling maintenance under categories such as responsive maintenance (dealing with faults as they occur), and planned preventative maintenance (ppm).

— the Labour Management System (LMS), defines a common standard of productivity measurement and enables workforce utilisation to be controlled and monitored. It replaced
local bonus payments which were often slack and out of control. LMS itself is currently being reviewed by the NHS Maintenance Staff Management Advisory Panel. Key features of LMS are set out in Exhibit 12.

— the Works Information Management System (WIMS) provides a series of computer modules covering a wide range of works functions. The great majority of NHS Works Departments make use of at least parts of the system, especially now that its asset register module has been extended to compute capital charges.

Details of Estmancode, LMS and WIMS are at Appendix 1.

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**Exhibit 12**

**THE LABOUR MANAGEMENT SYSTEM**

There are significant weaknesses in the current system

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work study job measurement</td>
<td>Significant proportion unmeasured in practice</td>
</tr>
<tr>
<td>National job times and update procedure</td>
<td></td>
</tr>
<tr>
<td>Monitoring of productivity</td>
<td>Lengthy monitoring period (see para 109)</td>
</tr>
<tr>
<td>Monitoring of lost time</td>
<td></td>
</tr>
<tr>
<td>Flexible working</td>
<td>No incentive for high workrates</td>
</tr>
<tr>
<td>Improvement on previous local schemes</td>
<td>No effective penalty for poor workrates</td>
</tr>
</tbody>
</table>

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**PROBLEMS OBTAINING VALUE-FOR-MONEY FROM MAINTENANCE INFORMATION**

93. General Managers have paid comparatively little attention to the cost-efficiency of the maintenance service. They have been largely unaware of the unit costs of the service, the levels of planned preventative maintenance (see Glossary), and the opportunities to improve value for money. They have been primarily concerned with its output – the appearance and condition of their estate – and its reliability. The study team did not encounter a significant attempt to calculate zero-based works budgets (i.e. to justify all expenditure levels as if starting on a new site).

94. There is a big variation in reported expenditure on maintenance. Whether this is expressed as a percentage of overall revenue spend or related to the building area to be maintained, some districts spend twice as much as others (Exhibit 13). The data is sometimes misleading because the building area can be overstated or expenditure misrecorded (for example, laundry maintenance may be shown either under laundry or under maintenance headings). But these factors in no way explain the observed variation. The high-spending districts have no obvious features in common. For instance, they do not seem to be the ones whose building stock is in particularly poor condition – perhaps because remedial projects on poor condition buildings will more often be a call on capital than on revenue. The variation must be due primarily to either the unit cost of work or the volume of work that is undertaken.
Exhibit 13

MAINTENANCE EXPENDITURE

There is a big variation in expenditure on maintenance.

Source: DoH Performance Indicators, 1988/89

PRODUCTION COSTS PER HOUR

95. The labour charge for any job of work is a product of the hourly cost and the time taken. The main costs are payroll and on-costs. Payroll costs comprise wages, National Insurance, and superannuation payments. On-costs are for supervision, management and the costs of administering the LMS system. Other costs are incurred such as the running costs and capital financing of equipment, transport and premises, as well as central establishment charges for administration (Finance, Personnel, etc). However, the NHS does not yet have the systems to identify the last of these, but based on local government experience they may add about £1 per hour to production costs.

96. The performance of a jobbing maintenance workforce is often expressed in terms of its dayworks rate, or the cost incurred in putting a worker on site for an hour:

\[
\text{Dayworks rate} = \frac{\text{Wage} + \text{on-costs} + \text{other costs}}{\text{Hours paid} - \text{absence hours}}
\]

However the dayworks rate does not tell the whole story; workforces differ in how much work they produce per hour on-site. This report therefore deals in terms of cost per unit of production calculated as shown in Exhibit 14 overleaf. This cost is the figure which would have to be applied to the times in the Labour Management System national library (plus relaxation) to derive the cost of the various maintenance jobs. This figure is also affected by the rate of work. As measured by LMS, most units perform close to 100BSI. This is a British Standard which means that one hour's worth of work is produced for every hour spent directly on maintenance tasks.

97. When all these factors are taken into account, costs per unit of production vary quite widely, from £10.90 to £12.90 excluding two exceptional cases (Exhibit 15). (The Inner London Weighting of £18.59 per week would add about £1 per hour to these costs.) The causes of this variation in performance are identified in Exhibit 14 and discussed in the paragraphs which
Exhibit 14
UNIT COST OF PRODUCTION
The cost of production depends on both payroll costs and productivity

Note: LMS software also computes a 'cost per standard hour'. This LMS cost is not the same as the unit cost defined in Exhibit 14. The LMS 'standard hour' also includes allowances for travel, waiting time etc, and the cost element does not include management time above Planner / Estimator grade.

follow. A rate of just over £10 per hour corresponds to good performance on every element of cost.

98. The Commission recently completed a study of local authority building maintenance Direct Labour Organisations (DLOs). There the Commission's benchmark production cost was £10 per hour at 1987/88 prices (£12 per hour at 1989/90 prices). However the local government cost also includes about £1 per hour for payroll, office and other central administrative costs. The geographical spread of their work probably adds a further £1 per hour in transport costs. Thus on local authority experience, a benchmark production cost of £10 per hour might have been anticipated (Table 3). This study's benchmark for NHS builders (as opposed to the more highly paid engineering operatives) is actually around £9.50. Precise comparisons are not possible since NHS work takes place on larger sites and different allowances are needed for such aspects as emergency cover. In view of these differences there is reasonable agreement between the two benchmarks.

Table 3
BENCHMARK COSTS FOR LOCAL AUTHORITY AND NHS BUILDING WORKERS.

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit cost of production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local authority target (updated to 1989/90 prices)</td>
<td>£12</td>
</tr>
<tr>
<td>Less transport costs (do not apply to NHS single-site units)</td>
<td>minus £1</td>
</tr>
<tr>
<td>Less central administration (NHS data not available)</td>
<td>minus £1</td>
</tr>
<tr>
<td>Compared with NHS benchmark costs (builders)</td>
<td>£9.50</td>
</tr>
</tbody>
</table>
Wage Rates

99. Although pay rates are determined by national agreement, there are several factors which cause some local variation (Exhibit 15).

Exhibit 15
COSTS OF PRODUCTION
Unit costs vary between sites...

...not so much because of payroll costs...

as because of time lost to production

Source: Site visits
— the age and skill mix: under-18s, apprentices, and semi-skilled grades are paid less than fully experienced operatives; building grades are paid less than the flexibly-skilled trades (electricians, fitters and plumbers)

— premium rates: these are paid for weekend and Bank Holiday work within the basic 39-hour working week

— overtime working: overtime has had a bad reputation. There are instances where long-serving employees still benefit from guaranteed overtime regardless of the workload. However, overtime was generally used quite sparingly (between one and six hours per person per week) in the units visited, especially outside the South-East of England. Overtime at these levels may well be good value for money, especially when it is booked against special jobs which cannot conveniently be done within rostered hours.

Supervisory and Management On-costs

100. Both supervision and management costs vary considerably. Supervision (including that by working chargehands) varies between around 8% to 15% of attendance hours. Management’s assessment of their own time devoted to the DEL (as opposed to control of contractors, design, energy etc) added a further 8% to 16% to the DEL costs. This includes the wage costs of the Planner/Estimators (an on-cost of around 6%) who are responsible for operating LMS locally.

Absence and Non-productive Time

101. Work measurement is the foundation of LMS. As well as annual and sick leave, the system identifies other elements of non-productive time to allow for travel between and within sites, and for time spent waiting or diverted to other activities. Relaxation allowances (see Glossary) are specified in the national agreement.

102. Even when absence and diverted time are managed in accordance with good practice and national agreements, 26% of the workforce’s time is lost as a result (Exhibit 16). If these elements are out of control, this percentage can rise as high as 38%.

Exhibit 16
TIME SPENT BY IN-HOUSE WORKFORCES
Poor control of time means a significant loss of production

![Diagram showing good control vs. poor control of time]

Source: Site visits & national agreements
103. Sickness-absence. Sickness-absence in the study authorities varied from almost nothing up to six hours per week per operative (Exhibit 17). The Commission's study of local government building DLOs recommended a target of 1.5 hours per week (equivalent to 10 days per year per operative). Few units achieved this target, often because of long-term sickness. It is not just the level of sick pay that matters. It is the value of the work that would otherwise have been undertaken that is of prime concern.

Exhibit 17
TIME SPENT BY IN-HOUSE WORKFORCES
Poor control of time means a significant loss of production

104. Some sickness is of course inevitable, but where control is not exercised some sick leave can be regarded as an automatic addition to the annual leave entitlement. As such it is more akin to absenteeism and is often associated with low morale, poor conditions, high turnover and low productivity. The solution can therefore be linked to overall management improvements.

105. Travel time around the site. Under LMS, an 'auxiliary allowance' of around 10 to 15 minutes is added to every hour of work allocated. This allowance covers travel around the site, job preparation and planning, and shift start and finish times. Each individual site has its own allowance, which is determined by a standard procedure to reflect the geography of the hospital site. Some managers would like local discretion to reduce these allowances.

106. Travel time between sites. Travel time between sites is not a major problem, because most NHS maintenance work is based on a single site. However some labour groups have responsibility for a number of dispersed premises. In these cases travel time can absorb up to 1½ hours per day.
107. **Diverted time.** Operatives can be diverted from the day-to-day workload for such purposes as working with contractors, training, and authorised meetings. All the elements of diverted time are potentially useful, but where they amount to as much as 10% of attendance hours (Exhibit 17) the justification needs to be queried.

**Productivity**

108. Most if not all units report rates of work close to the LMS target of 100 BSI - defined as 'brisk, businesslike performance, as of an average trained worker on piecework, who can achieve the necessary standards of quality and accuracy with confidence' (Exhibit 17).

109. The provisions of LMS encourage this apparently uniform level of performance. The scheme provides no positive incentive to the workforce to improve their productivity against the target, and in fact prohibits the employer from offering such an incentive. LMS does specify a single-step penalty for poor group performance (12.5% of pay lost if performance falls consistently below 97.5BSI) although this penalty has very rarely been enforced. Moreover productivity is monitored as an average over a lengthy period (13 weeks) and sometimes over control groups as large as 30 or 40 operatives. This provides little incentive for individual operatives to modify their daily performance.

110. The success of the LMS relies heavily on the validity of the national times. The required times for various maintenance tasks will fall as new methods and materials are introduced, and the NHS will need to ensure that these are continually updated. Some revisions have taken place and the times for painting are currently being re-examined. This process must continue as techniques advance.

111. There are reasons to suppose that the true work rate is often less than the reported level. First, some units are not measuring enough of their work to provide a valid measure of performance. Units are required to pre-measure all planned preventative work and 75% of requisitions, but in some units less than half the requisition work is measured (Exhibit 17). Second, where planned preventative maintenance (ppm) jobs just involve inspection it is not easy to ensure that the work is completed as specified.

**VOLUME OF WORK**

112. The volume of work (measured in hours' work done per square metre) varies greatly. A major cause of this variation is the amount of ppm undertaken (Exhibit 18). There is a wide range of opinion among NHS Works Officers and their customers about the desirable level of ppm. Some managers emphasise that a high level should result in a more reliable service. However, there is evidence that some levels of ppm are excessive and should be reviewed accordingly:

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113. In many units the ppm system is out of control. The amount undertaken is often no more than 50% of that scheduled in the local WIMS database, and yet low priority tasks are still being undertaken. Light fittings may be washed too frequently. Inspections may be arranged in areas where general walk-rounds should pick up most of the problems; for example, plumbing, pipework and medical furniture such as beds and lifting equipment. In part this is a cultural problem. Where faults exist on such items they should be reported by their users. Too often staff fail to do this and ppm inspections have to be substituted.

SERVICE TO THE ‘CUSTOMER’

114. Once production costs and the volume of work are under control, the question of effectiveness remains. The best judges of the effectiveness of much of the jobbing maintenance are the clinical and departmental managers who are in a sense ‘customers’ of the works department. It is they who requisition repairs and agree a level of regular servicing, but unlike commercial customers they are normally unaware of the cost. More seriously they cannot know the opportunity cost of diverting resources from other types of work to deal with their request.

115. It would be impractical for the whole maintenance budget to be reallocated to these managers, at least in a large hospital where much of the work is on shared assets (for example, structural repairs and external redecoration, and attention to heating and ventilation systems). Eventually Resource Management Initiatives (RMI) are intended to give hospital managers detailed information about the costs of their decisions, but maintenance costs were not a high priority for inclusion in these systems at the RMI pilot sites visited.

116. For individual customer managers, the effectiveness of the service is first a matter of whether requests are dealt with at all; and if so whether they are done on time and to a good standard of workmanship. Customer interviews in this study indicated a good level of satisfaction with the day-to-day service. Complaints were usually caused by the larger maintenance jobs (such as redecoration) and new works (fitting out a theatre for new equipment) not being done. On the other hand, small jobbing repairs reported to the works department do get done, despite
budgetary pressures. Response times differ greatly between works departments (between 30% and 70% of requests are reported as seen to within one day), and even in the best units delays inevitably occur on some jobs. The main problem was that the customer is not kept in the picture; reasons for the delays tend not to be fed back – a matter of liaison rather than performance.

117. Southern Derbyshire's City Hospital unit has made a special analysis of response times (Exhibit 19). The response time was well aligned to user requirements, especially for urgent jobs. But their analysis also raises the question whether customers needed to classify so many jobs as urgent.

Exhibit 19

**CUSTOMER SERVICE**
Response times should be analysed by urgency of job.

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**Source:** Southern Derbyshire City Hospital Unit

118. On many sites, customer managers felt the works department was remote. Not feeding back reasons for delays was only one symptom of this. Telephone procedures for requisitioning repairs are now replacing cumbersome paperwork systems, but even these are not always customer-friendly; for instance some works units are closed at lunchtime. Individual managers say that they are not involved when the works department visit their site, and are not kept in touch with problems that develop in their area. The maintenance service cannot claim to be completely effective where the users of the service feel it to be so remote.

* * *

119. To sum up: much is being done to improve the efficiency and effectiveness of maintenance activity in individual units. But many works departments still have outstanding problems:

— Information about efficiency and effectiveness has not had a high profile and receives limited attention from general managers;

— As much as 38% of available time can be lost to leave, sickness and diverted time, and there is no incentive to increase the rate of work;

— Some units spend heavily on planned preventative maintenance programmes without evidence of corresponding benefits;
— The priorities of the maintenance organisation often do not correspond closely with those of its customers.

POTENTIAL IMPROVEMENTS
INFORMATION

120. LMS produces large weekly print-outs summarising the rate of working, the work hours used, and analyses of unproductive time. There is provision to monitor the performance of individual operatives, and the LMS cost per standard work hour for the group. However few managers monitor the all key variables or summarise them for review by general managers. Simplified summaries of LMS returns should be used to monitor trends against agreed targets for productivity, absence, and volumes of planned and responsive maintenance (Exhibit 20). These trends cannot be identified from the Körner estates returns, which record maintenance costs in relation to building area without showing how the underlying factors are being controlled.

Exhibit 20
CONTROLLING THE COST OF MAINTENANCE
Summaries of LMS data should be used to monitor trends against targets

Note: This management cycle is not intended to be prescriptive. Local managers should use systems which reflect local priorities and reporting arrangements.
PRODUCTION COSTS

121. All NHS managers are under continuous pressure to reduce costs, and in this environment the cost of an hour’s maintenance work is a vital piece of information. Few general managers seem to be aware of this cost and how it is changing. Yet it is simple to calculate as shown in Exhibit 14.

Supervision and management

122. Some of the works departments visited had reviewed their management and administrative structure. The main objective however is not so much to reduce costs, as to ensure that clear lines of responsibility and appropriate skill levels exist. One unit was successfully using clerical staff to relieve Planner-Estimators of some of their routine work.

Productive time

123. The workforce's time must be monitored and managed so that it becomes fully productive. Of course, genuine sickness must be allowed for, as must travelling time around the hospital and to other sites. However it is vital that these elements be properly controlled.

124. Sickness needs to be categorised as long-term or short-term and dealt with appropriately. Persistent short-term sickness requires firm action by way of home visits, interviews and medical reports; in short, positive action by local management.

125. Travelling time around a single site is allowed for as part of the ‘auxiliary allowance’ determined by a national formula for each site. Some managers would like discretion to reduce this allowance. Paragraph 128 sets out the conditions under which this might be appropriate.

126. Travelling time to outlying sites such as health centres or small hospitals can be substantial. In these cases managers should consider whether they could employ multi-skilled operatives outstationed as the single maintenance person on site (the model used at a chain of private hospitals) or make use of porters for simpler jobs, or whether it would be more cost-effective to contract at least the building work out to a local contractor (as South Lincolnshire has done for many years).

Rate of work

127. The Labour Management System, properly applied, allows productivity to be monitored in a controlled way. Many units are not doing this effectively; either they do not measure enough of the jobs, or they fail to review the detailed working of the scheme technically, or they do not follow up indications of poor performance, for individual workers if necessary. Proper use of the system is likely to highlight areas for potential improvement.

128. Units which have used LMS in this way to prove that the rate of work is genuinely on target, should have discretion to simplify or amend the system. Admittedly there are dangers in doing so. Experience in local government shows that any switch to a dayrate system will almost certainly reduce productivity.* Local amendments to job times can lead to slackening of the schemes. A more satisfactory approach would be to monitor performance in just a sample of weeks, thereby releasing planner-estimator time. Incentives for improved performance might be introduced, provided that there was real and effective control of job values and the percentage

* See the Commission’s Occasional Paper No. 14 ‘Building Maintenance DLOs in London’ (1990)
Exhibit 21

**PLANNED PREVENTATIVE MAINTENANCE**
Varies greatly from site to site

![Exhibit 21: Planned Preventative Maintenance](chart)

*Source: Site visits*

of measured work. Except in the case of NHS trusts, any locally negotiated scheme would require the agreement of the DoH. These national conditions are currently the subject of review.

**VOLUME OF WORK**

**Planned preventative maintenance programmes**

129. Many units are doing more ppm than seems justified on simple 'per square metre' comparisons (Exhibit 21). Their ppm programmes need to be reviewed. But it would be wrong simply to reduce all ppm across the board. Some ppm is statutory or mandatory (eg insurance inspections of pressure vessels). Ppm is also justifiable where the cost of a fault (or a deterioration in performance) is high (eg the loss of energy efficiency if boilers are not cleaned out). Where ppm is justifiable, the frequency needs to be queried: it should relate to the expected life of a component, or to the time when performance may begin to deteriorate. Works managers should ask:

— What would be the cost of a policy of breakdown-repair rather than ppm? Dealing with a breakdown will usually be more expensive (and time-consuming) than a routine ppm task, but the ppm job will need to be done more frequently.

— Is there positive reporting or information feedback as a result of ppm jobs? Depending on the nature of the asset, the report should record the current performance or condition of the asset, or perhaps simply that it is still in situ. Systems which provide no check on whether the ppm was done should be avoided.

— Would a failure have consequences for safety or for patient care? Can users easily detect potential failure themselves?

130. The volume of ppm that is necessary on particular sites will vary, and not merely because of the differences between acute and institutional hospitals. Some sites will have steam-raising boiler plant, laundries, sterile supplies and cook-chill catering, all of which will necessitate some ppm. But regardless of the equipment provided, many estates managers still
believe that the ppm workload could be safely cut back. If all sites could contain ppm to within 4 to 5 hours per week per 1000 m², then savings of about 10% could be made on productive work in-house which could then be applied to the maintenance backlog.

131. Reviews of ppm should be conducted in conjunction with the managers responsible for the assets. Their view must be obtained on which items are high priority for regular inspection and servicing, and on where they are willing to experiment with reducing ppm. These reviews should be facilitated by the existence of the asset registers which form the basis for capital charging. The management benefits of having these registers have however often gone unrecognised.

**Controlling the workload**

132. New technology may offer opportunities to reduce maintenance staff requirements, particularly by substituting for regular inspection and monitoring. Energy management can offer such opportunities*.  

133. York DHA has installed a combined Building/Energy Management System (BEMS) to monitor and control equipment in the District General Hospital and all major outlying sites over a 12 mile radius. The district originally justified the system by energy savings alone; after a year’s operation it was estimated that the investment of £1 million would be recovered within 3 years. On top of this they have now developed its application to reduce maintenance costs. Thus — regular monitoring/checking of fire alarm systems in outlying buildings no longer requires staff to visit the sites; — when problems arise with temperature control, it is possible to monitor both the air temperature, environmental conditions and performance of suspect equipment: reserve equipment can then be brought into use automatically; — response time is improved; the system can report a failure before users on the spot are aware of it. A diagnosis is provided and the engineer can thus go equipped to deal with it; — the system can be interrogated from a lap top computer using a car telephone, reducing the need for specialist maintenance cover on site.

134. Maintenance management is not simply about waiting for jobs to arrive; good planning can help to control the workload. For example, ease of maintenance should not be forgotten when buildings and extensions are designed. New equipment should be chosen with maintenance requirements in mind (as well as other running costs, and now capital charges). Maintenance managers should be aware of what items of equipment make heavy demands on their operation, perhaps because of the cost of spares or the need for urgent attention. The regular servicing programme for these items should be reviewed, or alternatively early replacement may be cost-effective.

* See ‘Saving Energy in the NHS’ to be published by the Commission in March 1991.
EFFECTIVENESS AND QUALITY OF SERVICE

135. Works departments have traditionally been somewhat remote from the rest of the hospital community. Their liaison with customer managers needs to be reviewed, and there should also be a channel for the views of patients, visitors and the local community (who may become future users) to feed into the maintenance programme.

Liaison with customer managers

136. Maintenance cannot be organised in a vacuum. Maintenance managers may use service agreements, policy statements, annual refurbishment programmes, and regular liaison meetings to make clear what they offer and to ensure that it meets the hospital's requirements. Service agreements should set out levels of routine maintenance on key equipment, target response times for emergencies and non-urgent breakdowns, and responsibilities for safe and proper working of equipment. These service agreements can usefully be supported by a general policy statement justifying the level of maintenance, the in-house/contractor split of the workload, and the arrangements for review. Each year the estates manager should develop a timetable of work such as painting which impacts significantly on the operational use of the buildings. The timetable will take into account the workload constraints of both the maintenance manager and the user, and continuous liaison with customer managers is of key importance. The works department needs to be aware of events such as temporary ward closures which may affect its workload or timetable. Regular liaison meetings should also take place (perhaps with a nominated works officer allocated to each major customer such as catering) to review outstanding work, and discuss priorities for future development.

137. 'Customers' should have clear and straightforward lines of communication to the works department who service them, including: telephone contact when requesting work and discussing problems, target times within which the job will be done, and feedback of any reasons for delay or failure to meet this target. Operatives should report on arrival and on leaving the job and keep their customer informed of progress (this applies equally to employees and contract staff).

Patients, visitors and the community

138. Conflicts of interest can arise. An example arose in the mental handicap sector when the works department wanted to redecorate in standard colours and coverings. This went counter to the aim of helping residents to make choices for themselves and not treating them as inmates of an institution. Works managers should be sensitive to these issues.

139. The Community Health Council (CHC) has an important role as representing local interests. It has the right to enter and inspect any NHS building and to report to the DHA. A number of the CHCs visited had a structured programme of inspections, which included questions on the condition of the building and its services. This provided a useful independent feedback to the authority. CHCs seem to be most effective when they recognise the financial constraints under which DHAs operate, and temper their recommendations with realism. Visits by health authority members can be of value in the same way.
COMPETITION

140. To encourage improvements in many of the above areas, a long-term objective should be to increase the proportion of maintenance work that is put out to competitive tender. The Commission believes that this is an effective way to ensure that value-for-money for a defined service quality is obtained. A well-organised DEL should be in a strong position to win such contracts.

141. One district visited had found that competitive tendering for other services had led to real improvements in efficiency, and decided to apply the same principles to works services, although it was not obliged to do so. In order to improve its chances of winning the contract, one of its units reviewed its maintenance performance levels and identified savings of 10% through
— reductions in sickness and diverted time
— local agreement with the staff side to work to a smaller auxiliary allowance
— improved working practices such as fuller implementation of the national flexible skilling agreement for electricians, fitters and plumbers. Ten days further training was arranged at the local technical college to achieve this.

The unit’s in-house labour force won the contract on this basis. The district reports that they are continuing to give a good quality service at a relatively low cost (around £10 per square metre).

142. If this competition is to be a positive and effective force for change, contractor and client functions will need to be strengthened and formally separated. Client managers should be organisationally separate within the authority from the works department, and as clients should hold responsibility for defining the volume and standards of work. The Unit Works Officer would remain responsible for the ‘contractor’ role, carrying out the work as specified by the client. In many areas the client will need technical advice as to these standards, but again it is good practice to keep the advisory function separate from the work itself.

143. For this approach to be successful, the workload needs to be carefully specified, and indicative costs must be developed for common jobs (schedules of rates). Alternatively the contract may lay down the performance and acceptable maintenance condition to be achieved, leaving the contractor to lay down the specific tasks required. Furthermore systems are required for ensuring that the DEL (as well as private contractors) performs the required work within cost and quality specifications. But it is uncommon to find Unit Works Managers applying these controls effectively to the work of the DEL. If changes are made along these lines, improved productivity and quality should result.

* * *

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144. The day-to-day maintenance of the NHS estate has many good quality features. Backlogs of minor repairs are not allowed to develop, and in many cases the response time is well aligned to user requests.

145. Nonetheless there are many units where productivity could be improved by reducing the levels of sickness and non-productive attendance time. The volume of planned preventative maintenance has a major effect on the total workload, and needs to be examined. Greater competition could provide a spur to obtaining these improvements.

146. Districts should examine the best use for any savings made in this area. In many cases it will be appropriate to divert the money towards the backlog of major maintenance projects.
Appendix 1

THE NATIONAL MAINTENANCE FRAMEWORK

1. This Appendix gives a brief introduction to the roles of Estmancode, the Labour Management System (LMS), and the Works Information Management System (WIMS) in the management of NHS maintenance.

ESTMancode

2. Estmancode defined four categories of maintenance work (Exhibit A1). It then recommended inspection frequencies for each category and described the creation of a planned preventative maintenance schedule.

Exhibit A1

ESTMancode Categories of Maintenance Work

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Planned preventative maintenance (ppm)</td>
</tr>
<tr>
<td>(Regular, scheduled servicing)</td>
<td>Clean air-conditioning filter</td>
</tr>
<tr>
<td></td>
<td>Test stand-by generators</td>
</tr>
<tr>
<td>B</td>
<td>Irregular maintenance</td>
</tr>
<tr>
<td>(Attend to slowly developing problems as required)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Repair of breakdown</td>
</tr>
<tr>
<td>Fault correction</td>
<td>Replace theatre lamp</td>
</tr>
<tr>
<td>(Respond to user request)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Small improvements/additions</td>
</tr>
<tr>
<td>(Respond to user request)</td>
<td></td>
</tr>
</tbody>
</table>

3. Unit works departments are now commonly funded for categories A, B and C only. Where even small new works are required, responsibility for funding has increasingly passed to the departmental manager.

THE LABOUR MANAGEMENT SYSTEM

4. The Labour Management System (LMS) was introduced in February 1987. It facilitates the management of maintenance staff and monitors performance; it applies to building and engineering craftsmen and associated labourers, and is linked to their pay. LMS is mandatory on health authorities and boards throughout the United Kingdom. The National Financial Incentive Scheme, which covered these grades prior to 1987, allowed scope for considerable local variation. In the summer of 1990 the Management Advisory Panel for NHS Maintenance Staff (MAP) which had negotiated the introduction of the LMS in 1987 initiated its own management review of the system in the light of three years' operational experience in the NHS.
5. Under LMS, all jobs are covered by dockets which describe the work. Dockets are issued for requisition work (category C) as well as for the pre-planned maintenance work. The intention is that the dockets also indicate the time allowed for the job, made up of two elements:

— the ‘basic time’ for the job (see Glossary) which is determined by reference to national standards. Thus the same job is allowed the same basic time throughout the NHS;

— further allowances to cover relaxation time, travel time around the site, and general activities at start and end of shift. A separate auxiliary allowance is calculated for each site.

6. The purpose of the docket system is to provide supervisory control ‘on-the-spot’ as well as subsequent management review. A plan board allows supervisors to allocate jobs to tradespeople, ensures that each operative's workload is planned well in advance, and records the job to which each operative is currently assigned.

7. Operatives should also record the time spent:

— on the work itself;

— travelling between sites;

— waiting for work (eg delays in obtaining supplies or access to premises);

— other activities on site (meetings, training, work with contractors);

— absence from work (sickness etc).

Management information is then produced analysing this data for groups of workers.

8. The aim is that operatives should work at a rate close to that laid down in the national scheme. There is no incentive to exceed that rate, but there is provision to penalise groups of operatives whose aggregate performance is consistently lower over a period of three to four months, provided that the fault can be proved to lie with the workforce and not with management or supervision. This sanction (of loss of 12.5% of pay) has very rarely been enforced.

9. Finally LMS addresses demarcation between trades, a cause of wasted time in some jobbing maintenance schemes. Some degree of flexible working was negotiated nationally as part of the introduction of LMS in February 1987. It was agreed that electricians, plumbers and fitters should be treated as flexibly skilled, and not necessarily be entitled to be accompanied by another trade or craft for skills outside their specialisation. No such agreement was made in respect of other trades (painters, carpenters etc). In consequence, electricians, plumbers and fitters (the so-called 'Common Grading Structure') receive higher rates of pay (around an extra £30 per week) than the other trades.
WORKS INFORMATION MANAGEMENT SYSTEM (WIMS)

10. The WIMS* software has been taken up by most health authorities since its introduction in the early 1980s. The system is composed of modules including
   — an annual maintenance programme.
   — planned preventative maintenance schedules, linked to an asset register (many authorities are using this module to hold the asset register required under the NHS reforms to compute capital charges).
   — budget monitoring (frequently allowing the works department to monitor expenditure far more quickly than through financial reports).
   — a property database as required for estate management.
   — operation of the Labour Management System.

11. Few units use all the modules and many authorities have yet to obtain full value from WIMS. In some cases the hardware has not been provided to give access to those managers who most need it; in other units training has not been extensive enough; and very commonly managers simply do not appreciate the value of the information which is available. WIMS cannot be reconciled with financial management systems and this limits its value to the authority as a whole. Work is being carried out to rectify this incompatibility, starting with the Capital Asset Application, and this is being given high priority.

12. The computer configuration is sometimes inadequate. Some units are doing LMS calculations on paper. Another reported that it would take several hours of computer time to produce a report on response time to users, although current database versions of WIMS would do the job in minutes rather than hours.

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* A full description of WIMS is published by the WIMS Centre of Responsibility, Room 327 Euston Tower, 286 Euston Road, London NW1 3DN.
Appendix 2

LIST OF CONTACTS

The following district health authorities and their management units were visited.

* Calderdale
  Clwyd
* Leeds Western
* North Staffordshire
  North West Hertfordshire
* Sandwell
  South Lincolnshire
  South Manchester
  Waltham Forest
  York

* Data collection only.

The following regional health authorities were visited:

  North Western
  South East Thames
  West Midlands
  Yorkshire

The following acted as advisers to the project:

  Prof. C Davies, Department of Health
  R Smith, Capital & Estates Manager, Bath Health Authority
  G T Wood, Deputy District General Manager, York Health Authority

The following organisations were consulted and provided comments on earlier drafts of this report:

  Department of Health
  Welsh Office
  Institute of Health Services Management
  National Association of Health Estate Managers
  Trades Union Congress
## Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
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| AIP          | APPROVAL IN PRINCIPLE  
  Under the CAPRICODE system, all major capital developments require AIP submissions to be made prior to detailed design and Budget Cost development. An integral part of the AIP is the Option Appraisal. |
| AUXILIARY    | Time allowed under the Labour Management System, for travel on-site, work planning and preparation, and shift start and finish. |
| BASIC TIME   | Time allowed for a specified task, at brisk, businesslike performance levels, as of an average trained worker on piecework, who can achieve the necessary standards of quality and accuracy with confidence. |
| BSI          | BRITISH STANDARDS INSTITUTE  
  Rating scale used in work measurement terminology. |
| CAPRICODE    | CAPITAL PROJECTS CODE  
  The DoH procedure under which the progress of all major building schemes are controlled. |
| CIP          | COST IMPROVEMENT PROGRAMME  
  Financial savings targets allocated to Districts by RHAs and by DHAs to Units. Normally on the basis of a percentage reduction on general or specific topics from previous year’s expenditure. |
| CHC          | COMMUNITY HEALTH COUNCIL |
| COSHH        | CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS  
  Regulations introduced on a national basis in 1988 affecting many areas of NHS work, including Estates, but also many clinical areas, eg, Pathology. |
| DOH          | DEPARTMENT OF HEALTH |
| DEL          | DIRECTLY EMPLOYED LABOUR FORCE  
  Also sometimes referred to as DLO. |
| DMU          | DIRECTLY MANAGED UNIT  
  Provider Unit which does not have NHS Trust status, and is managed through its District and Regional Health Authorities. |
| DGH          | DISTRICT GENERAL HOSPITAL |
DIVERTED TIME
Under the Labour Management System, time attributed to activities at the workplace such as working with supervisor or contractor, training, attendance at authorised meetings. (But waiting time is separately accounted for.)

ESTATE CODE
A set of DoH documents giving guidance on aspects of good practice in NHS estate management.

ESTATE MANAGEMENT CODE
A set of DoH documents giving guidance on aspects of good practice in NHS estate management.

ESTATE MAINTENANCE CODE
A set of DoH documents giving guidance on aspects of good practice in NHS building and engineering maintenance. (See Appendix 1)

ESTATES UTILISATION PROJECTS
Projects undertaken by Estates Directorate, in six pilot DHAs, to examine best and most cost effective ways of using NHS estate.

FIRE REGULATIONS CODE
KÖRNER RETURNS
A series of statistical returns for management use, covering most aspects of NHS clinical and non-clinical activity.

LABOUR MANAGEMENT SYSTEM
Centrally produced system, replacing bonus schemes, introduced in 1987 to monitor performance of building and engineering operatives as a condition of service. (See Appendix 1)

MEREWORTH
Multi disciplinary approach to NHS estates planning, incorporating clinical and non-clinical needs and resources.

NATIONAL AUDIT OFFICE
Office reporting to the Public Accounts Committee on any aspect of centrally financed work. Major NHS Estates related reports include - "Hospital Building in the NHS" (1987) – "Estate Management in the NHS" (1988).

NHS TRUST
From April 1991, hospital or health facilities reporting directly to the Management Executive and not through RHAs.
NUCLEUS  A modular system of hospital planning and design developed by Estates Directorate and now widely used throughout the NHS.

PIs  PERFORMANCE INDICATORS

PPM  PLANNED PREVENTATIVE MAINTENANCE
Documented approach to maintenance aimed at reducing breakdown incidence, introduced into the NHS in the 1960s.

PRODUCTIVE TIME  Defined in this report as maintenance operatives' time spent on activities inseparable from work, i.e., excluding all absence and 'diverted' time.

RELAXATION TIME  An addition to the basic time to allow the worker to recover from effort and fatigue, attend to personal needs and recover from adverse environmental conditions.

RHA  REGIONAL HEALTH AUTHORITY

RMI  RESOURCE MANAGEMENT INITIATIVE
DoH funded initiatives aimed at using information to provide an information and decision making structure, particularly involving clinicians in the management process.

SHA  SPECIAL HEALTH AUTHORITY

UGM  UNIT GENERAL MANAGER

UNIT  The Unit is the level below District in the NHS management structure.

UNIT COST OF PRODUCTION  The in-house labour cost associated with an average maintenance task of one hour's duration, (basic time plus relaxation).

UWO  UNIT WORKS OFFICER
(or Unit Estates Manager). Usually reports to the UGM, sometimes with professional accountability to a District Estates Manager.

WHCSA  WELSH HEALTH COMMON SERVICES AUTHORITY
Provides specialist and professional expertise, operational support and contractual services, in Estates and other areas, to Health Authorities in Wales. Accountable to the Welsh Office.

WIMS  WORKS INFORMATION MANAGEMENT SYSTEM
A series of computer modules developed by NHS Works and Estates staff to assist in Estates Management and Maintenance. (See Appendix 1).