

LIFT: 21st century health care centres in the United Kingdom

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Abstract

Purpose – To examine the processes used to procure and develop new primary health care premises in the United Kingdom and in particular the use of the private finance initiative and related methods.

Design/methodology/approach – An in-depth study of two local improvement finance trust schemes to procure new primary health care premises. These are contrasted against the *ad-hoc* arrangements for the traditional procurement of general practice doctor's surgery premises. Interviews were undertaken with key participants on both sides of the negotiations.

Findings – The process can be an unequal struggle between large consortia and small, inexperienced clients that may result in a wasted opportunity to obtain the optimum design and price.

Research limitations/implications – The research is limited to early use of the local improvement finance trust process and procedures; client bodies, such as primary care trusts, may benefit from the experience of earlier projects. The method of procurement will evolve and be refined and will become more widely used, not only for health but also in the education sector. Further examination of the procurement of education buildings using similar methods would be beneficial.

Originality/value – This method of procuring buildings is relatively new, and therefore, largely untried.

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Introduction

The National Health Service (NHS) has one of the largest property portfolios in the UK and is one of the largest businesses in Europe. This paper considers the changing nature of the NHS in terms of health care delivery and the implications of these changes on the procurement and occupation of modern health facilities.

In its second term, the government has embarked on an ambitious round of investment in health and education facilities in fulfilment of its promise to “deliver” the social improvement anticipated by the electorate in the late-1990s. One vehicle for providing such investment is LIFT. LIFT is a hybrid public-private partnership (PPP), a form of private finance initiative (PFI) whereby the public and private sector form a joint venture to provide, develop and maintain primary care centres over a 25-year period. The new centres will incorporate additional services such as pharmacy, district nurse and local authority services. In addition, LIFT is intended to provide a low-risk property investment vehicle.

Research objectives and methods

The paper focuses on the area of primary care and the provision of a new type of GPs' surgeries and health care centres. The study examined two of the first wave of LIFT projects in detail; the schemes were contrasted with the traditional procurement of GPs' premises.

Interviews were carried out with members of the design and negotiating teams of both winning and losing bidders. To obtain a client perspective a number of interviews were undertaken with the LIFT co-ordinators and their appraisal teams, including end-users and technical advisers. These interviews took place during the critical negotiation and financial closure phases.

Background – the NHS

The NHS was set up in 1948 by the post-war labour government who effectively “nationalised” municipal and charitable hospitals to provide a free at point of need health service. Family doctors, who had previously charged for their services, reluctantly joined the service after the government of the day promised generous fees and allowances. The aims of providing a free service at the point of need have remained constant over the intervening 50 years. However, organisational changes at both strategic and local levels have been part of a modernisation programme that is resulting in different ways in which health care is being delivered.

In the NHS there is a division between “primary” and “acute” care. Primary care is a term used to describe community-based health services that are usually the first, and often the only, point of contact that patients make with the health service. It covers services provided by GPs, nurses, physiotherapists and occupational therapists, pharmacists, optometrists, dentists and midwives. Acute or secondary care normally takes place in a hospital.

A strategic plan for the modernisation of the NHS was outlined in 1997 and was reinforced by the election of the labour party into government in 1998, with a commitment to improvements in social welfare – health and education. In its second term of office this has been further emphasised and there is a political expectation of demonstrable delivery on these issues.

The NHS plan ([Department of Health, 2000](#)), gives an indication of how the government expects the NHS to change and to modernise services over the next ten years. A key theme of the plan is to offer people fast and convenient services delivered to a consistently high standard and available when people require them. The plan has a strong emphasis on locality-focused services, with primary care and community health practitioners in control of decision-making. “Shifting the Balance of Power” ([Department of Health, 2002b](#)) is the programme of change and is part of the implementation of the plan that includes details of delivery ([Department of Health, 2002a](#)). It is intended to provide a service centered around patients, which puts them first. It is intended to be faster, more convenient and offer patients more choice.

One result of the modernisation process is the creation of primary care trusts (PCTs), which were set up in 2000 to deliver primary care (acute trusts and/or hospital trusts deliver secondary care). PCTs have the

role of running the NHS and perform most of the functions that the previous bodies, the health authorities, performed that is primarily working to improve the health of the local population. There is, however, an increased emphasis on partnership with local authorities and others.

From a property perspective the PCTs are responsible for the commissioning of general and acute services and investing in primary and community care. Primary care premises are increasing in size as a result of the incorporation of additional community and social services that were previously provided separately. They are also increasing in complexity and facilities as the role of the PCTs expand and the functions performed become wider. The PCTs are now at the centre of the NHS and it is estimated that the PCTs will get 75 per cent of the NHS budget. This new investment has developed a substantial property development opportunity that a number of existing and new operators can exploit.

Provision of care premises

Traditionally, the provision of GPs' premises has been an *ad-hoc* affair. The legacy of the "nationalisation" process, limited investment opportunities and suitability for modern provision (fit-for-purpose) all now present problems for the NHS.

The occupation statistics for primary care premises in 2002 are shown in [Table I](#).

Partnerships for health survey data ([Department of Health/Partnerships UK, 2001](#)) suggests that:

- only 40 per cent of primary care premises are purpose built;
- almost half are either adapted residential buildings or converted shops;
- less than 5 per cent of GP's premises are co-located with a pharmacy and around the same proportion are co-located with social services; and
- around 80 per cent are below the recommended size.

Even the purpose-built health centres constructed in the 1960s and 1970s are now too small to accommodate the range of services the new NHS contract requires of GPs. Since the inception of the NHS, GPs have protected their status as "contractors", providing their premises and accepting payments and allowances relating to patient numbers and, recently, a variety of bonus payments relating to health care initiatives. By providing their own facilities in freehold real estate they consider their premises as an investment and/or the basis of a pension/retirement fund. In "good" localities they have enjoyed considerable capital gains in recent years. In deprived areas, however, these premises may be a very poor investment, acting as a further disincentive for GPs to locate in those areas.

The "contractor" approach has exacerbated health inequalities; wealthy suburbs can attract GPs whilst deprived areas have difficulty in attracting an adequate number. This is not only due to property market effects, but also there are issues related to the patient group the GP wishes to "serve". The results are well documented, for example, there are 50 per cent more GPs in relatively affluent Kingston and Richmond than there are in deprived areas such as Barnsley or Sunderland, even after adjusting for the age and needs of their respective populations. Delivering improvements in primary care premises is, therefore, crucial to support the challenge of recruiting and retaining GPs that is faced by many PCTs in less favourable locations.

In addition to the obsolete premises referred to above, other issues, such as a new emphasis on health care in the community, sustainability ([NHS Estates, 2001b](#)) and increased flexibility for "new" GPs have all focussed the need to improve the stock of primary health care premises. Diverting health provision towards primary care will leave hospitals free to specialise in the acute cases for which they have the specialist facilities. The new NHS GPs' contract will reward GPs who specialise, are prepared to carry out minor surgery, and undertake more pro-active care in the community. This is intended to reduce the load on hospitals as well as being more convenient for patients. Newly qualified GPs are less prepared to enter long-term financial commitments necessary to providing premises in which to work. They are increasingly attracted to the role of a "salaried" GP, working for a PCT but with the flexibility to move between locations or change the focus of their career.

The intention of the NHS is to provide twenty-first century primary care centres. This will be a facility that provides "one-stop" services and accommodates some, or all, of the following ([Barnsley East Primary Care Group, 2000](#)):

- GP staff and services, including minor surgery, dedicated clinics for chronic disease management, minor injuries clinics;
- community services – district nurses, health visitors, community psychiatric nurses and therapy staff;
- other primary care services – pharmacy and dentistry;
- diagnostic, testing, screening facilities;
- primary to secondary care – including diabetes, ENT and rheumatology clinics, consultant outreach clinics;
- local authority staff – social workers, care managers, welfare advice; and
- support accommodation – office space, staff rooms, kitchen, library, meeting rooms.

This is a large vision and clearly all these services could not be accommodated in current premises. The premises improvements that are required are not only incremental improvements to existing infrastructure, but fundamental changes to the way primary and community services are accommodated.

Characteristics of traditional funding arrangements

The traditional method of funding GPs' surgeries has been set out in the statement of fees and allowances ([Department of Health, 1992](#)) known colloquially as the “Red Book”. This document sets out the space standards that will be funded by the NHS for GPs' premises. Like any set of regulations, the standards set quickly become the maximum to be provided. This can act as a disincentive to innovation in design. In one instance a large, pleasant, balcony had been provided at a surgery. The practice manager, whilst enjoying the benefits of the space, was resentful that it was not a prescribed space, and therefore, not “funded”, i.e. able to be claimed to add to the income of the practice.

The rent the NHS reimburses GPs is agreed by the district valuer (DV). The DV provides advice on a market rate for a GP's practice, however, in many instances this is difficult to establish in remote areas where there is no “office” property market to provide comparables. The DV will look for comparable property such as dentist or veterinary practices to provide data. One interesting aspect of the DV calculation is that it is intended that the notional rent is intended to compensate the GP for the cost of providing premises and will include a rate of return on potential borrowings but not a “profit” element. The extent to which this reimbursement provides good value to the patient is subject to some debate. If the GP is an owner-occupier the notional rent may be generous in relation to the historical cost of providing the premises; there is no requirement for the GP to continually improve their premises and they may take this “rent” as additional salary whilst leaving the premises in a relatively run-down condition.

The rental value that is agreed with the DV is critical to the development of new premises as this figure is the return that GPs and private developers will use in their development appraisal decisions.

In recent years, a strong development market emerged to help GPs provide and modernise their premises. The market has been occupied by niche developer-investors who have recognised that a GP's surgery, where the rent is paid by the PCT, represents a low risk, long-term investment.

Niche developers locate a site for a GP surgery that is likely to gain planning permission. With a site in mind they then locate a GP practice in rundown property that can be attracted to the new purpose-built facility. Working with the GP(s) they design the new premises and liaise with the PCT to ensure that the development is in accord with the PCT's strategic health improvement and modernisation plans.

The developer contracts with the GP(s) and develops the design to remain within the likely rental figure the DV will agree. Although each property is unique, the developers have a good understanding of the market and the likely rental value and will design accordingly.

An important issue is the liaison with the PCT. To implement the NHS plan the PCT is increasingly requesting that the larger “one-stop-shop” type premises are developed. Although this is more time consuming for the developers they are happy to take on this multi-use development. It allows the developer to present the proposals to a local authority as a “mixed use”, which makes it more likely to gain planning permission. In addition, the range of facilities being provided will diversify the income stream to include, for example, a local authority outreach department or a pharmacist.

In a manner similar to that displayed by individual GPs, niche developers tend to avoid investing in deprived areas that may undermine the long-term capital value of the investment. However, when working to provide facilities in prosperous areas the developer may well be competing with residential developers for sites. To gain an adequate supply of sites the developer has to be imaginative in the development they put together, for example, by incorporating flats above health premises. This will necessarily create a higher risk scenario. The advantages of GPs' surgery development are that it is essentially a pre-let development. Moving into the residential market to secure a site means exposure to the risk of adverse movements in that market which may move against the developer and they may be left with vacant flats that are difficult to sell.

Property procurement

Procurement methods for UK construction projects have changed dramatically over the last 15 years. Construction has traditionally been perceived as an industry in which a project is delivered late, exceeds budget and fails to satisfy a client's requirements. Two seminal studies sought to address these issues. The [Latham \(1994\)](#) report recommended that contracts should be based upon principles of fairness, mutual trust and teamwork, rather than anticipated confrontation and a construction task force on "Rethinking Construction" promoted the concept of "partnering" ([Egan, 1998](#)). These concepts, together with a tight control on public sector borrowing, provide the drivers towards the PFI as a major procurement tool for new build in the UK.

PFI offers a form of PPP to gain access to new or improved capital assets; the approach is also referred to as design build finance operate. The various responsibilities and risks relating to the procurement and operation of a capital asset are transferred to the private sector. Unlike traditional procurement the public sector does not buy the assets, but pays for the use of assets held by the private sector and the services associated with those assets. Generally there will be a 25-year contract period over which the private sector will recover the investment it has made in the asset.

PFI is a major and growing area of public expenditure in its own right. In 2004, PFI schemes worth just under £5 billion were launched, which is approximately one-tenth of gross public sector investment. The proponents of PFI suggest considerable benefits from the process, which differ little between sectors. In health, the intentions of PFI procured premises are ([NHS Executive, 1995](#)):

- to improve the quality of services by utilising a wider range of potential providers and learning good ideas and better techniques;
- to increase cost-effectiveness through competition, sharing of overheads and taking advantage of the private sector's skills; and
- to reduce the risk to the NHS by sharing and the use of incentivised contracts.

Since 1997, 64 of 68 hospitals completed are PFI projects and this ratio looks set to continue. Despite what has been described as a "vacuum of evidence" on the effectiveness of PFI in the health sector and problems in respect of bed numbers and hospital capacity, a modified form of PFI is being rolled out for the primary care sector.

LIFT schemes that are intended to act as a mechanism to encourage a new market for investment in primary care and community-based facilities and services. LIFTs are a variation on the PFI theme; they apply PFI principles but, unlike conventional partnering arrangements between client and contractor, the LIFT scheme is a joint venture whereby the construction and management is 40 per cent owned by the local PCT. The arrangement of the LIFTCo in relation to public and private investors is as shown in [Figure 1](#).

The joint-venture company is given exclusive rights to design, build and operate the primary care facilities. The first phase of LIFT includes the PCTs in Newcastle and North Tyneside and Barnsley that formed the sample used in the research.

The LIFT process

Individually, the projects included in a LIFT arrangement, such as a single GP's surgery, may not be large in financial terms. However, the collection of projects, the long-term operation and management of all the projects and the option to plan, implement and manage any other proposals, increases the scale of the

overall scheme considerably. One of the consequences is a procurement process governed by European legislation and a clear design development protocol ([NHS Estates, 2001a](#)). A typical arrangement will require advertising in the *Official Journal of the European Communities (OJEC)*, a pre-qualification questionnaire and/or a preliminary invitation to negotiate, a final invitation to negotiate (to perhaps three consortia) and a selection process to determine the successful consortium – the “Preferred Bidder”. After selection of the Preferred Bidder the design development process continues to financial close, with some detailed progression of the designs. Another, obvious, consequence of the arrangement is the size and expertise required of the Preferred Bidder, comprising funder, developer, designer, contractor and facilities manager. A wide range of technical expertise needs to be coordinated as well as considerable resources to fund potentially unsuccessful bids.

Irrespective of the form of funding there is still a requirement that all government procurement should be carried out on the basis of value for money (VFM). This is defined as the optimum combination of whole-life cost and quality to meet the customer requirement. It is, therefore, the intention that a LIFT joint venture examines all aspects of both the design and operation of the projects to minimise whole-life costs whilst still providing a design that enables the PCT to carry out its clinical functions. The emphasis on VFM over the lifespan of a project gives encouragement to achieving some aspects of sustainability, for example, the specification and use of energy-efficient building services.

LIFT has a first phase of six PCT areas announced in February 2001; these were Barnsley, Camden and Islington, East London and city, Manchester, Salford and Trafford, Newcastle and North Tyneside and finally Sandwell. Two further phases have been announced involving 36 further PCTs. It is revealing that this “role-out” has been instigated before there has been any formal evaluation of the first phase. It is also interesting to note the lengthy gestation of the schemes; the first project to commence building on site started some three years after the original announcement, largely as a result of protracted financial and legal issues.

Research findings – the bidding process

As indicated above, the bidding process has been a protracted affair with phases of rapid progress only to be followed by glacial slowness. The original OJEC advertisement attracted a wide range of consortia, some with considerable knowledge of PFI bidding for large hospitals but with little knowledge of primary care provision. Much of the specialist knowledge gained by the niche developers was lost as they were not large enough to join the consortia to bid for the first phase of LIFT schemes.

Consortia were invited to bid for five to six health care centres in the PCT area, the bidders had to provide an advanced design and specification for the premises together with detailed information on:

- partnering services;
- financial issues;
- technical issues;
- commercial and legal issues; and
- employment.

The consortia were working from an array of data sources. The bid documents had been adapted from a “model” document, designed by partnerships UK (an overarching government agency designed to provide technical support on contractual matters). There was a set of tenants' requirements, which provided the basic space and facilities specification for each of the premises and all this was underpinned by the “Red Book” and NHS specifications in the form of health building design notes and technical memoranda.

Community consultation

The long list was reduced to a short list of three, competing to be the preferred bidder who would be invited to negotiate for the 25-year contract. The PCTs generally have a commitment to community participation in the provision of health facilities; however, during the first phase of bidding, the proposed designs were confidential and there was no community involvement in the selection of the competing designs. Although there was little in the way of “grass-roots” community participation there were a considerable number of stakeholders involved in the selection process.

The competition

The competing consortia, including architects, in many instances produced spectacular designs to gain the contract – the “wow” factor. The LIFT coordinator, in charge of the selection process, had to evolve an auditable decision matrix to balance to competing qualities of the schemes. At one “beauty-competition”, where the bidding teams made their presentations, there were over 30 people in the panel, comprising health professionals, the LIFT coordinator's team and their technical, legal and financial advisers.

The preferred bidder is established having regard to the selection criteria indicated above and a decision matrix. The design of the scheme is then refined during a process of further consultation to achieve financial closure. In practice, the opportunity for stakeholders to modify the schemes varies between LIFT schemes. In some PCTs, once the preferred bidder was established, then all the first round designs were revisited and the stakeholders started a more focussed round of consultation. In other PCTs the original designs have been found to be more robust.

Whilst the combination of different specialists into the same building is beneficial in terms of patient care, in some cases it has proved difficult and, consequently, expensive to accommodate their individual demands. In more than one instance, where four GPs' practices were moving into a new health centre, four separate reception desks and distinctive waiting areas have had to be created. Whilst this arrangement is clearly less efficient in practice and unlikely to be cost effective, the original designs have had to be amended in accommodate such requests in order to ensure the cooperation of the GPs concerned.

Lease plus agreement

The least plus agreement (LPA) was developed by Partnerships for Health Limited and is the standard form of lease to govern the occupation of LIFT premises. It is claimed that the LPA is different from traditional leases, which are weighted in favour of the landlord, because the LPA was drafted on behalf of the public sector and GPs. The principal advantages are said to be:

- non-payment for non-delivery;
- clear standards in terms of service delivery and certainty in terms of liability for these services;
- whole-life costing regime and clear responsibilities in terms of external and internal repairs and maintenance; and
- repeated or serious poor performance by the Landlord may trigger remedies in the other LIFT documents, including forced removal of an underperforming service provider.

Like many PFI schemes the premises are provided and maintained by the LIFTCo with a lease that provides for penalty payments for poor performance. The establishment of the performance standards and the negotiation of the contracts have proved to be a lucrative opportunity for the technical and legal teams on both sides of the negotiation. Research indicates that the providers have been very careful to “derogate” or contract out of many of the standard NHS specification clauses, arguing that they are either inappropriate for the premises being provided or, if they must be adhered to, will incur disproportionate extra costs.

The LIFT scheme, as originally envisaged, anticipated that the LIFTCo would grant a headlease to the PCT that in turn would grant an underlease to the GPs as tenants. In such a case, the GPs would have no direct contractual relationship with the LIFTCo (those financing the LIFT scheme have taken the view that individual GPs or GP partnerships do not provide a sufficiently secure covenant). This provides a more secure investment and gives the GPs more confidence, as the PCT will be able to provide more flexibility in occupying the space. If, for example, a GP wished to retire, the space can be taken over by the PCT and a “salaried” GP installed. This lease arrangement resulted in the PCTs requesting the design of the schemes allow more flexible use of space as practices evolve.

Conclusion

One of the main issues to emerge from the research is the contrast between the small-scale niche developers and the large-scale PFI contractors.

In the case studies the niche provider is a small plc that has developed an expertise in the field and produces well-designed premises using their in house design and build team. The efficiencies of this operation are such that they can profitably provide GP's premises on a long-term lease at rents that are approximately half those being paid to the LIFT contractors. From a PCT perspective, however, the niche

developers will only operate in areas where there is either a secure property market or which is part of a regeneration scheme, where they may anticipate improving property values. The limited financial and staff assets these organisations can command has curtailed their ability to compete for LIFT schemes. Anecdotal evidence indicates that bidding for a LIFT scheme can incur costs of over £0.5 m with only a one-in-three chance of success; this is too risky for the organisations concerned and consequently their expertise is lost to the LIFT programme.

The large-scale PFI contractors have been attracted to LIFT as a logical progression of their hospital and school building activity. Whilst the breadth of experience they bring to the bidding process is considerable their designs have been likened to hotels or offices and they have required considerable modification to provide acceptable accommodation to GP and health professionals, particularly in respect of security issues. The bidders have reacted rapidly to the invitation to tender and are well capable of providing the substantial amount of information that is perceived as a necessary part of the bidding round to a very tight programme. However, in the cases studied, once the preferred bidder has been established the progress has become “glacial”. A phalanx of legal and financial consultants, representing the wide range of stakeholders in the process, has carried out protracted due-diligence checks, with consequential fee implications. From the perspective of the government this must be distressing as the provision of improved health care facilities is a major plank of their electoral platform and, at the current rate of progress, there will be very little to show before the next election.

The costs of the LIFT schemes appear to be resulting in a rental up to 100 per cent greater than that achieved by the niche developers described earlier. This may be unsurprising, given the overheads of the large PFI contractors and the need to build into their costs the fees for unsuccessful bids. In addition, the fees of the legal and financial teams all have to be reflected in the rent charged to the PCT. This, however, is still a large premium for locating in disadvantaged areas and it is a credit to the government and the PCTs that they are prepared to incur these costs to rectify the market failure of the traditional procurement route. Deprived areas of the country are to be provided with health care facilities equal to if not better than the wealthy suburbs and the integration of community service with a broad range of health facilities can become a focus for neighbourhood regeneration. LIFT schemes have the potential to achieve many of the aspirations of the labour party when they set up the NHS over half a century ago.

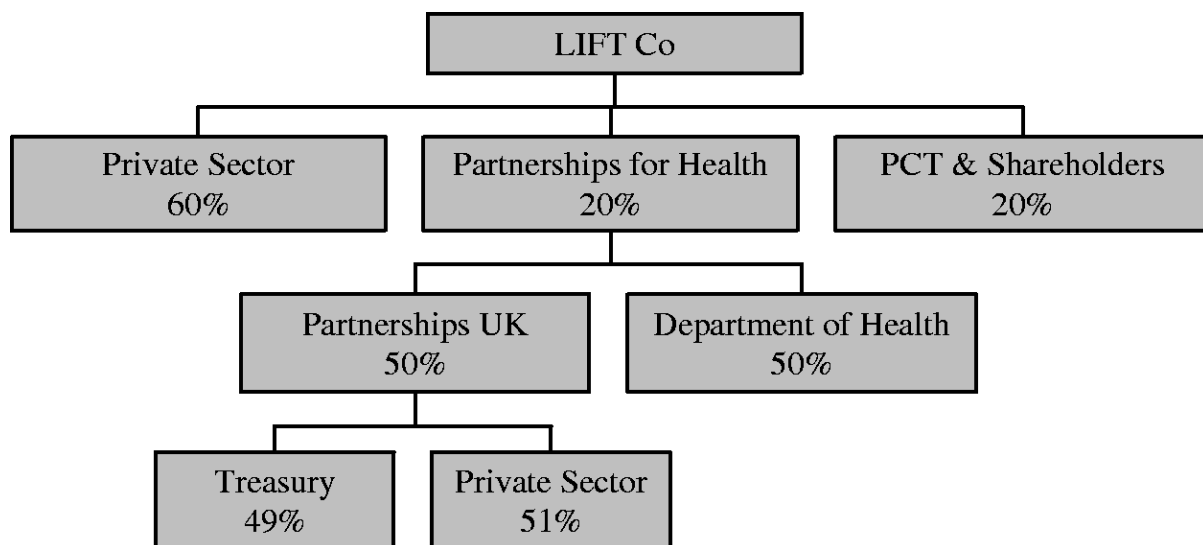


Figure 1 Ownership of LIFT Co

Owner-occupied (per cent)	63	Table I. Occupation of primary care premises
Leased (per cent)	21	
NHS health centres (per cent)	16	

Table I Occupation of primary care premises

References

Barnsley East Primary Care Group (2000), *Dearne Locality Plan*, Barnsley East Primary Care Group, Barnsley, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Department of Health (1992), *National Health Service (General Medical Services) Regulations 1992 – Statement Specifying the Fees and Allowances Payable to General Medical Practitioners in England and Wales*, The Stationery Office, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Department of Health (2000), *The NHS Plan – A Plan for Investment, a Plan for Reform*, The Stationery Office, London, CM 4818 – I, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Department of Health (2002a), *Delivering the NHS Plan – Next Steps on Investment, Next Steps on Reform*, The Stationery Office, London, CM 5503, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Department of Health (2002b), *Shifting the Balance of Power – The Next Steps*, Department of Health, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Department of Health/Partnerships UK (2001), *Public Private Partnerships in the NHS: Modernising Primary Care in the NHS: Prospectus*, Department of Health, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Egan, J. (1998), *Rethinking Construction: The Report of the Construction Task Force on the Scope for Improving the Quality and Efficiency of UK Construction*, Department of the Environment Transport and the Regions, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

Latham, M. (1994), *Constructing the Team*, Department of the Environment, HMSO, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

NHS Executive (1995), *Private Finance Guide – Capital Investment Manual*, HMSO, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

NHS Estates (2001a), *Public Private Partnerships in the NHS – The Design Development Protocol for PFI Schemes*, Department of Health, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

NHS Estates (2001b), *Sustainable Development in the NHS*, The Stationery Office, London, .

[\[Manual request\]](#) [\[Infotrieve\]](#)

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