

Healthcare facilities management operations and organisational decisions

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Abstract

This paper presents a research which analyses healthcare facilities not just as fixed assets, but as a tangible part of the service chain underpinning the provision of clinical services to both internal (departments and/or directorates) and external customers (patients, visitors and staff). It also discusses operational and management issues involved in the provision of support services in the healthcare sector and explore the responsibilities across all functional lines of authority in NHS trust. Based on field studies, this paper argues that strategic management of healthcare FM operations brings about competitiveness and best value in the running of the healthcare facilities and services.

Keywords Healthcare, facilities management, best value

Introduction

The past decade has seen the UK's Trust hospitals subject to elastic limits of competitive service delivery uncertainty, as illustrated in Figure 1. There has also been an immense demand and pressure exerted by healthcare service consumers and stakeholders for Trusts to purchase, manage and deliver care services at best value. With these milestones and parameters set ahead for them, Trusts hospitals are ever in search of sustainable strategic options, which would proactively re-engineer their businesses to manage risks effectively and to deliver core clinical services to consumers.

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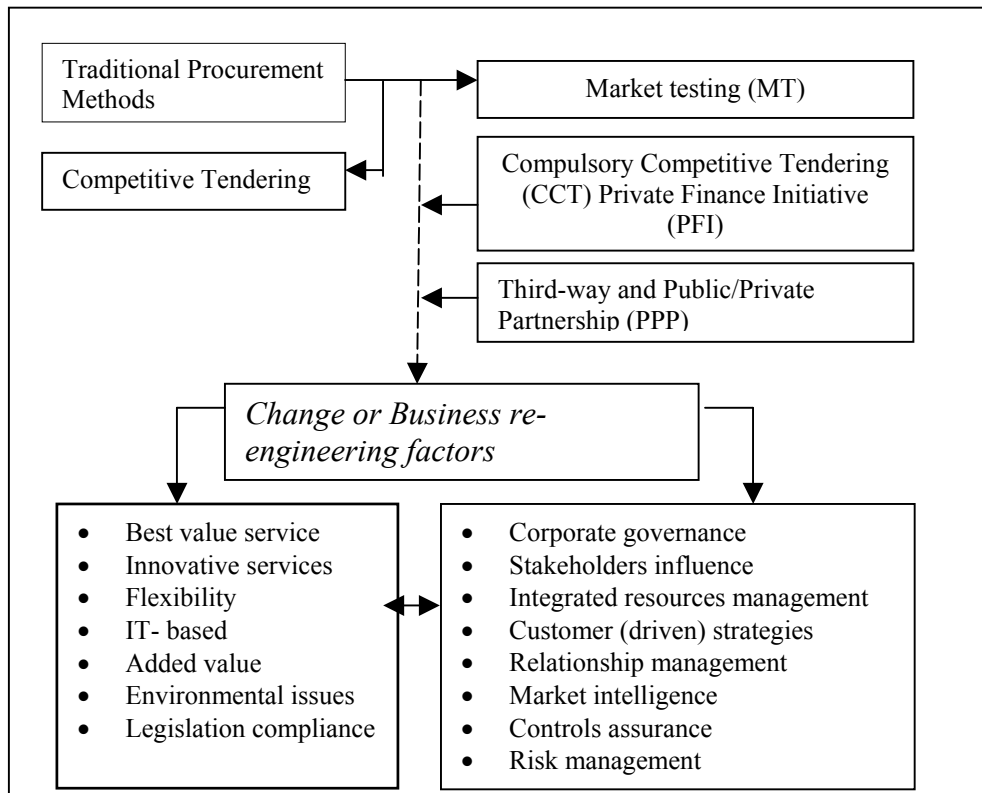


Figure 1: Evolutionary change factors in NHS Trusts Hospitals non-clinical services
Source: Okoroh et al (2002)

The White Paper Working for Patients (1989), proposed the need for NHS Trusts to operate commercially and viably, while incorporating business approaches such as those utilised in the primary care sector. The White Paper strongly believes that the NHS at its best is without equal. More business integration is therefore needed to bring the National Health Service in line with managing hospitals in dynamic business environments. This approach has also been enhanced by the publication of HFN 17 (1998), which emphasises business guide towards best practice experiences and the strategic management of healthcare FM in Trusts. The approach recommended by the White Paper looks at how to improve clinical service outcomes while integrating non-clinical services such as healthcare FM in the delivery system. This paper looks at how far the post-modernist approach to managing UK NHS Trusts ancillary/support services under FM umbrella has developed as proposed by the Working for Patients White Paper.

The management of non-core/clinical services in the NHS Trusts under the auspices of FM has revealed that healthcare business integration and congruency are continuously changing. This trend has been due to the chaotic business environ that constantly changes to meet the demands of care service consumers. Due to the little understanding of FM by Trusts, executive managerial functions have been seen to revolve around various senior care executives. Rees (1998) suggests that the idea of co-ordinating a “single” facilities management service directorate borrowed from commercial organisations has been the key influence in the development of FM and its management structures in NHS Trusts. According to Rees (1998), this approach has resulted in the appointment of senior managers with responsibilities for the provision of a range of non-core clinical services.

Most writers and commentators have argued that the historic approach used in the healthcare industry for managing numbers rather than outcomes, has operated inefficiently. Featherstone and Baldry (2000) and Andaleeb (1998) suggest that one of the major root of such a crisis has been the focus on medical effectiveness research by clinicians without giving due consideration to other customer satisfaction and measurable service factors (such as healthcare facilities and support services) during service design and delivery process.

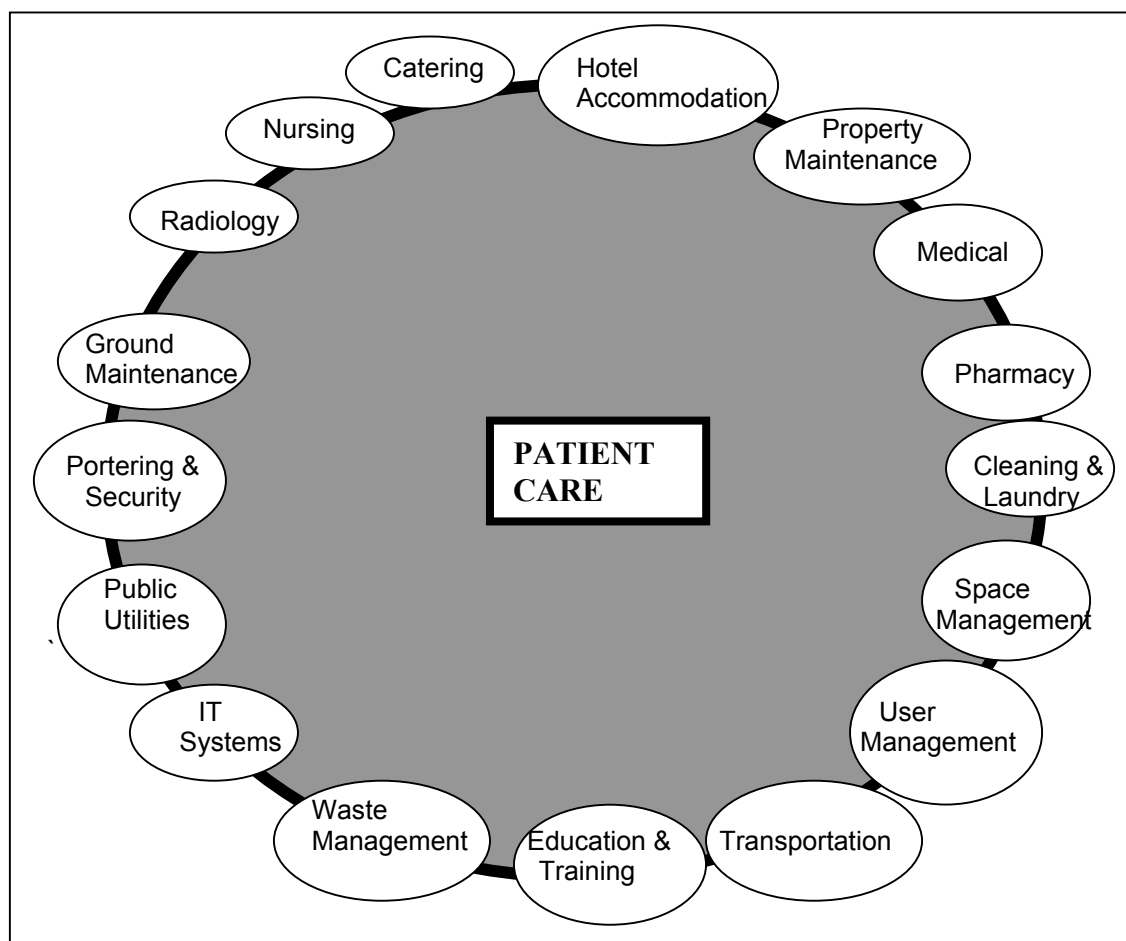


Figure 2: Modern healthcare services and their inter-dependencies
Adapted from Howell et al (1999)

Furthermore, clinical effectiveness as argued by Featherstone and Baldry (2000) has a narrow academic focus, with little or no appreciable relevance to customers and clinicians in this sector where rationing of resources determines the quality of care to be delivered to patients. This argument is much appreciated in the commercial business service sector where most successful organisations base their competitive strategy by putting customer issues first before any other organisational objectives.

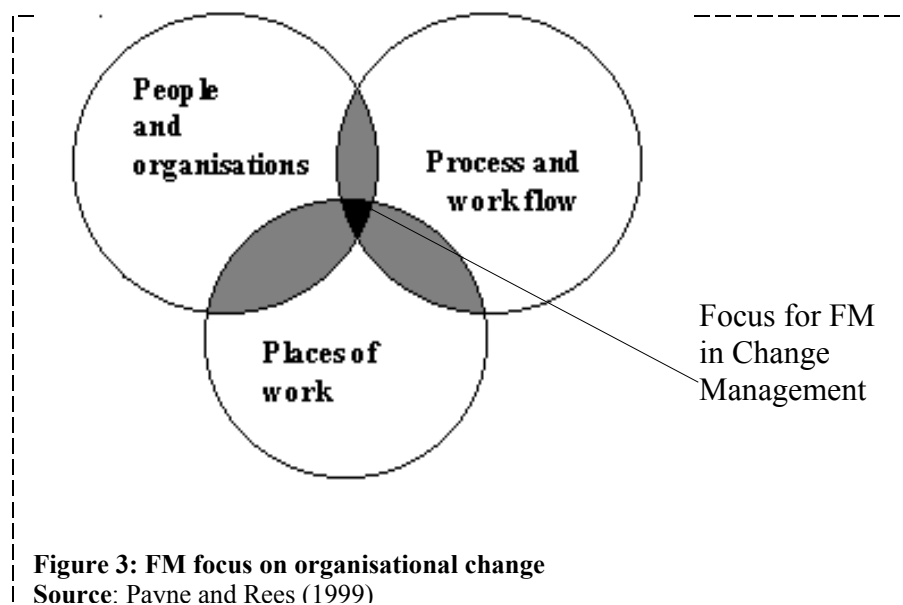
An integrated management approach to healthcare FM

As a key to the practice of healthcare FM, an integration of management and control of support services represents effective business decision-making by healthcare executives towards delivering value for money services. The making of such a decision can only be viewed in light of Peter Drucker's (1979) emphasis on effective organisational control:

“Executives do many things in addition to making decisions. But only executives make decisions. The first managerial skill is therefore the making of effective decisions”

It is crucial that an integrated approach shown in Figure 2 is designed and incorporated into the main operational strategy of any Trust in order to reap maximum benefits from FM. By integrating management and control of clinical and non-clinical services, senior Trust executives ranging from the Chief executives or the management board will have a one-stop direct accountability for non-core clinical service functions dynamically linked to the patient care system. This approach represents a shift from the previously separate traditional management of these support services either as estate, hotel, and site services (Okoroh *et al.*, 2001). It can be said to represent the post-modern one-stop organisational management structure exhibited in NHS Trusts as observed by Grimshaw (1999) and Akhlaghi and Price (1999).

In search for more care business flexibility and best value in providing responsive care to patients, staff and service-users, several models of providing FM services have been tried in the Trusts. These models of FM service providing organisations are based on the competitive scope of delivering FM service to various segments of customers in business (Payne and Rees 1999).



Various researchers and practitioners have proposed a number of FM organisational and operating models. This FM model (figure 3) is based on factors that have

evolutionary lead to the development and operational changes within organisations such as hospitals. The model encapsulates the role of facilities managers as that of being a change agent or manager. This challenge will allow the organisation to be flexible to adapt to future changes in the market and business environment. Thus, a focus on the changing business environment will bring with it a handful of opportunities for the facilities manager to practically co-ordinate and package the required portfolio of property, goods and services that best support the organisation's needs. Payne and Rees (1999) argue that the facilities manager must also have a clear focus on changes taking place, which are relevant within their organisation's core business environment.

Bridges (1998) on the other hand based his FM model on a theoretical and hypothetical framework under mature market conditions, and used an empirical study of facility procurement decisions from insourcing to outsourcing to determine his model limits. He regards this process of procurement shifts as moving towards "maturity" stage in FM organisational behaviour. His framework comes from Becker's (1990) model, which focuses on the competitive niche provided by FM services in organisations.

Research methodology

Data collection involved structured questionnaire and interviews with leading healthcare managers (providers, purchasers and customers). Firstly, a round table discussion was held with the Derby Royal Infirmary (DRI) NHS managers in the project, in order to raise interest and foster collaboration. This measure was taken with a view to encourage participation and rapport between the DRI management and the research team. These discussions formed the background of the research project was followed by a detailed study of a healthcare partnering arrangement between DRI (now part of the Southern Derbyshire Acute NHS Trust) and Carillion and Bateman Services, a well-known healthcare service provider.

The DRI contract was chosen as it was regarded as one of the 20 best performing hospitals in the UK (DoH, 1993); DoH, 1998). The DRI partnering contract was formed to provide estate, support and site service. The discussions led to the development of a structured questionnaire which was piloted with the DRI managers and selected healthcare managers, providers, purchasers and researchers within the NHS Trusts. When the research team members were satisfied with the questionnaire, it was sent to 365 NHS Trust hospital executives and facilities managers within England and Wales. The selection of the participants was based on a "non-randomised" controlled study (Moon and Mullee, 1999).

In addition to fieldwork surveys, primary and secondary sources of NHS and business literature on support services operations were also used to supplement and validate findings. As this research involved investigation of healthcare effective management of non-clinical services in the NHS hospitals, it was important for the researchers to validate the research data with archival information kept in the databases of the surveyed NHS providers and purchasers in the UK.

Job titles of NHS Trust Executives	Number of respondents	Percentage of respondents
Chief Executives	64	31.2
Trust Secretaries	2	1.0
Operations	16	8.0
Finance and Allied Services	19	9.0
Risk Management	4	2.0
Corporate Affairs	6	3.0
Business Development	5	3.0
Clinical Support	1	1.0
Strategy and Planning	3	2.0
Hospital Services	1	1.0
Resources	8	4.0
FM and Support Services	60	30.0

Table 1: Composition of the survey sample

A validation of the results was conducted with three healthcare general managers (Gombera and Okoroh, 1999) and took the form of unstructured interviews or attitudinal statement. This approach is commonly used in opinion polls associated with government elections. As attitudinal statements have their limitations (Oppenheim, 1966), after each reply, the manager was asked for richer qualitative details on why he/she has this view and what causes him/her to take it. One of the main advantages of this research method is that it isolates people's attitudes, impressions, opinion, beliefs and judgement (Buckley *et al.*, 1975). Some of its main deficiencies are that it may suffer from bias inherent in the design of the survey instruments; for example, prior selection of questions and response sets and systematic bias in the way the respondents answer the questions such as bias between favourable or unfavourable, or familiar and unfamiliar questions (Buckley *et al.* 1975).

The composition of care executives who participated in the survey was multi-disciplinary (Table 1) (i.e., ranging from the most senior executive (CE) to operational and middle management). The diverse composition of care executives is a significant indicator that, for care FM support services to back the provision of an integrated care service, a multi-disciplinary (clinical and non-clinical) team is needed which utilises multi-disciplinary pathways of care (Hands and Wilson, 1997).

Analysis and Discussion

Table 2 displays the main core care services offered by most Trusts surveyed. The NHS Trusts core service competencies identified includes Acute, Community/Mental, Teaching, Acute and Community and others (Integrated). These services are the most generic types of core care service portfolio found provided by the majority of NHS Trusts although variants are emerging. The reason is mainly due to the ever-changing needs of care stakeholders coupled with internal (political, economical, social and technological (PEST) and external (strengths, opportunities, weaknesses and threats (SWOT) business factors.

Type of NHS Trust	Number of NHS Trusts	Percentage of respondents
Acute	71	35.5
Community/Mental	57	28.5
Teaching	18	9.0
Acute and Community	55	27.5
Others	35	17.5

Table 2: NHS Trusts core service competencies

From Table 2 it can be seen that 71 (35.5%) of Trusts surveyed were those providing Acute services. This percentage is not surprising, as there is currently a high demand of Acute services in the whole continuum of care in the UK. Acute services are the primary services most Trusts offer to their customers, as they are needed on daily basis. As a result of this, support related services in these hospitals would also be needed on daily basis to underpin the complex care delivery of the core care services. Apart from those providing core services, the remainder of hospitals surveyed also offer other care services or a combination of clinical services such as community, mental, teaching and integrated care services. The order is dependent on the effective use of healthcare facilities and support services.

Up to 57 hospitals (28.5%) provide Community and or Mental services, while 18 (9%) are Teaching hospitals. From this percentages, it can be inferred that community and teaching services in the NHS represent a greater part of an on-going modernisation process in the public services by the current Labour Government, to improve medical manpower and technology resources, community involvement and learning, that have been neglected for sometime in the NHS. Community and Teaching Trusts have always been vital in the continued improvement and advancement of medical research and technology to provide best quality of healthcare models to patients through the use of high-class facilities. Another value issue that emerges from this analysis is that, although healthcare development and clinical leadership or their equivalents are being prioritised in the new NHS, care support services (FM) will have to be developed in order to underpin and cope with the effective delivery of such care. Community and teaching Trusts have always been vital in the continued improvement and advancement of medical research and technology.

While FM is not the industry standard for managing healthcare support and ancillary services in the NHS, some traditional archetypes of managing non-clinical and support services have long been in practice alongside the continuous development of FM as a business tool for managing change processes in Trusts (Gallagher, 1998; Williams, 1996, and Payne and Rees, 1999).

Strategic occupancy and space management in Trusts

Space management in Trusts forms one of the core competencies in support or FM service directorates (Wagstaff, 1997; Gallagher, 1998). Space is utilised by every customer, staff, visitor and the provider (in-house or external). Under FM, the support service directorate offers site, hotel and estate services to support clinical services

(Okoroh *et al.*, 2001). As a result, space management does impact on the service delivery environment. For example, the provision of enough space would allow better bed management, thus increasing inpatients admissions and a much safer working environment for staff. Therefore, this question was designed to evaluate the strategic occupancy and space management levels in relation to the number of sleeping beds one Trust can accommodate. Table 3 shows the occupancy levels of the Trusts surveyed. It indicates that over 60 % of the respondents stated that their occupancy levels were more than 400 beds per hospital. Results from such Trusts show that these hospitals needed more effective space planning policies, and as a result, would need to rely on effective FM to deliver the most effective space requirements.

Effective space utilisation would also mean effective management of services that would be needed to run the facilities. About 10% of the Trusts surveyed had between 800-900 beds, while 20% of the Trusts had between 200-300. Both types of Trusts can be regarded as small to medium size facilities. Only 5% had between 1000-2000 beds. These can be classified as large hospital Trusts serving a large number of customers. The average number of beds from the population sample was 512, which signifies that the average bed capacity of the surveyed Trusts was between 400–599 beds. This average represents 36% of the surveyed population. It can be assumed that effective space management was a prerequisite for creating more bed space, thus increasing the carrying capacity and the number of patients to be treated in any Trust. This point would also mean more capital to run facilities in Trusts.

Number of sleeping beds	Number of Trusts	Percentage of respondents
0-99	9	4.5
100-199	17	8.5
200-399	43	21.5
400-599	49	24.5
600-799	29	14.5
800-999	19	9.5
1000-2000	17	8.5
Others	9	4.5

Table 3: NHS Trusts total bed capacity

Type, function and bed capacity are generally used to classify hospital trusts in the UK. Any increase in the number of hospital beds allows for more clinical business and facilities, as well as fostering a virtual support environment for both customers and healthcare staff. The major objective of this question was to determine how efficient Trusts utilise their physical environment in terms of patient care facility provision and delivery. This idea is in line with Porter's (1985) thinking on value chain processes in the workplace. It also indicates the amount of risk a Trust can carry in terms of health and safety issues, infectious diseases control, space utilisation and working environment. The greater the occupancy levels, the more the need for Trusts to adopt cost cutting measures and benchmark the best practice in FM practice, in order to reduce the propensity to keep spending.

FM service procurement options in Trusts

Table 4 shows Trusts services purchasing behaviour, which is characterised by progressive outsourcing, out-tasking or insourcing. In healthcare Trusts FM service provision can be a one-off (*out-tasking*) or a plural task requirement (*outsourcing*). The other modern and innovation service requirement is under the auspices of privatisation - Private Finance Initiative (PFI) and Public Private Partnership (PPP), a full-blown package of FM service portfolio functions. It demands from the contractor to provide a complete revolution of FM “bundled” services now being considered by most Trust hospitals under the banner of progressive outsourcing (Pearson, 1998). The Trusts were classified as providing an integrated FM approach due to them having at least 95% of the FM competencies listed by the British Institute of Facilities Management (BIFM). The BIFM listed about 22 competencies that are classified as part of a comprehensive list of FM services (Ridout, 1997).

FM Function	No. of Trusts	% Outsourced	% Outtasked	% In-sourced
Gardens and Grounds	105	53	7	40
Estate Management	15	8	33	51
Hotel & Catering	70	35	13	52
Mechanical & Elect.	15	8	3	89
Domestic	87	43	21	36
Risk Management	5	3	2	95
Building Services	40	20	20	60
Waste Management	120	60	8	32
Total FM	5	3	7	90
Energy Management	60	30	7	63
Car Parking	80	40	45	15
Health and Safety	45	23	73	4
Reprographic	5	3	45	52
IT & Telecom.	20	10	73	17
Cleaning	90	45	10	45
Portering & Security	25	13	10	77
Pathology & X-ray Services	19	9	20	71
EBME & Medical Equipment	115	56	20	14
Courier and Lock Smith	61	30	10	60
Low Dependency Patient Care	13	6	15	79
Patient Transport	30	15	10	75
Specialist Support	11	4	5	91
Police Force	41	20	5	85

Table 4: NHS Trusts service purchasing behaviour analysis

It can also be said that on the average from the survey, at least 48% of the bundled FM services were outsourced to external contractors, from which 23% of the FM functions were out-tasked to the same contractors. On the other hand, at least 52% of the Trusts managed their FM services in-house. Other FM services unique to Trusts such as pathology, patient services and transport, medical equipment and

sterile suppliers and low dependency patient care account on average 60% of FM services that were in-sourced from in-house contractors.

- In their own independent survey, the Building Services Research and Information Association (BSRA) identified the level of outsourcing in the commercial sector of the above six main FM functions as 60% compared with the 30% indicated on Table 4. The difference could be attributed to the concerns expressed by Bell (1998) and Blumberg (1998) that outsourcing can be a “good management tool” in organisations with high labour usages and sharp, steep learning curves. This situation is typical of healthcare Trusts, where continued medical technological development and political reforms are always changing. Outsourcing however can expedite improvement changes in staffing levels, working practices, management controls and costs, service levels and quality of care.

Outsourcing can be a risky business undertaking in the sense that it often requires great changes in management mind set if not a new innovative method of communication levels among trust employees. It has also produced insecurity for most healthcare staff and trade unions especially in issues relating to the transfer of business to the external service provider - Transfer of Undertakings Protection of Employment) (TUPE) Regulations 1981 as amended. The management and monitoring of outsourcing are often very complex. It is also important to note that outsourcing is a long-term objective rather than a short term one. This idea can often mislead Trusts to think that this measure is an immediate cost-cutting exercise. In some cases, long term FM contracts that have a feature of short-term savings can prove to be very expensive at a latter stage. Bridges (1998) recommends that better methods of procuring support services must be based on an organisation’s ability to manage cost profiles across all facility services, and internal versus external capacity to deliver the services.

Strategic procurement options

The results shown in Table 5 indicate the various FM services purchasing routes used by various trusts.

Type of procurement route	Number of Trusts	Percentage of respondents
Traditional contracting	133	66.5
Partnering	16	8.0
Compulsory Competitive Tendering	103	51.5
Joint ventures	15	7.5
Partnerships	20	10.0
Private Finance Initiative	9	4.5
Service Level Agreements	6	3.0
Nil	3	1.5

Table 5: NHS Trusts strategic procurement options

The traditional procurement was being used by more than two-thirds (66 per cent) of the 200 Trusts surveyed, signifying that most Trusts are still using the traditional system of service procurement.

The participation of the private sector in the management of healthcare facilities is a current approach that has also given impetus to the modern approach of commercialising care services. This has also resulted in the injection of the necessary resources (capital, manpower and technology) in a sector operating on a low budget. The emergence of PFI and PPP is beginning to pay dividends as can be seen by the response rate of 4.5%. PFI and PPP are approaches for sharing service operation risks with the private sector and NHS staff are still to come to terms with them.

At least 6 (3 per cent) Trusts stated that they have used service level agreements (SLAs) as a basis for specifying or buying FM services in the NHS. These results indicate a low usage of SLAs for service procurement. SLA is a modern specialist contract practice in FM provision in Trusts. They have only been restricted and used recently in those Trusts that are knowledgeable with their service process and procedure.

Cost of managing healthcare facilities

Healthcare facilities and support services represent a substantial investment for Trust hospitals in the United Kingdom. As a result, there is a need to accommodate and support a range of clinical services, often taking into account competing customer and clinical needs. The results indicate that occupancy costs are typically between 25-30 per cent of a Trust's total investment portfolio (income) (Thomas-Scott, 1998; Wagstaff, 1997). The cost of running care facilities can help facilities managers to improve their understanding of how hospital facilities are used and identify any future development potential. In most hospitals, patients directly use less than 50 per cent of the gross area; e.g., most of the floor area supports the indirect services Wagstaff (1997).

Comparing these indirect costs to other industries might also be useful. This step helps to indicate those areas where there could be significant improvements in cost effectiveness and those most suitable for market testing. More financial investment into the operation of care facilities allows key management comparisons - costs of occupation amount of income derived from the facility, percentage of occupancy cost of total Trust income, and return on capital assets. The cost of occupation is derived from combining fixed asset and variable operational cost components. Results on FM operations costs can be used for business planning, so that the strategic direction reflects the Trusts' strengths and weaknesses. In view of the importance for FM budgets, this question set out to investigate the amount of capital investment tied down each year for running of facilities by Trusts. The results are shown in Table 6. Table 6 shows that 181 (90.5%) of the Trust hospitals surveyed have FM budget of up to £10M, signifying that the amount spent on care facilities and support services is quite high and would require effective management strategies to be in place to guard against over-expenditure. The rest of the 19 (9.5%) Trusts have budgets ranging from £11M- £250M, indicating that the majority of those Trusts own other complex care facilities and also offer secondary services such as teaching, ambulance and paramedical services.

Amount in Million Pounds	Number of Trusts	Percentage of Respondents
0-10	181	90.5
11-20	11	5.5
21-40	2	1.0
41-80	1	0.5
81-100	1	0.5
100-150	0	0.0
151-200	1	0.5
200-250	1	0.5
250+	0	0.5
Others	3	1.5

Table 6: FM annual operating budgets

The improvement of any healthcare services has always hinged on having adequate financial resources to remunerate NHS staff, procure drugs, operate and maintain healthcare facilities, equipment and utility services, and develop competitive service strategies.

Furthermore, to provide integrated healthcare service quality in Trusts, there must be sufficient healthcare facilities available to sustain the core business. Managing of hospital services cost money to both government and customers who pay for it indirectly as tax. Thus, for any hospital to have efficient and well-managed facilities, there must be sufficient financial resource investment to sustain its assets and service delivery objectives. It has been observed that efficient doctors and clinicians are always comfortable to care for patients in a hospital environment where the technology, facilities and resources, especially finance are available, in order for them to manage clinical outcome effectively. As a result, those Trusts that do not possess enough resources (i.e., healthcare facilities) tend to have problems in the recruitment of specialist clinical experts who would deliver quality clinical services. As observed recently in the NHS, poorly funded Trusts end up winding up or merging their business with other better performing Trusts due to incapacities to operate.

From the survey, large hospitals mostly provide acute and integrated services, or community and teaching services, while the small to medium offer tertiary clinical services that do not involve much usage of facilities. Those considered small to medium size are mostly responsible for providing customers with less facility occupancy services such as paramedical, community and teaching services. The finance of small to medium Trusts is mainly to fund "lighter" clinical services as different from those providing acute clinical resources. Their facilities are mainly used for service production, as opposed to the large one-stop shop hospitals. Effective resource management would be vital to both types of Trusts in competing for service delivery with General Practitioners. Most Trusts now tend to look for funding not only from the State but also from elsewhere in the private sector to revitalise their service strategies (clinical and non-clinical services).

Conclusion

In the healthcare sector, FM is somehow ambiguous, not only in terms of its structural definition, but also in the functional boundaries or peripheries to which it stimulates the core clinical business ties. In Trusts, the issues pertaining to the management of the non-clinical support services are under FM directorate and are beginning to emerge, despite not being realised as value adding elements. Due to the re-configuration of Trusts with a view to delivering a patient focussed care service as opposed to market-force driven one, FM service can include more intermediate roving service functions which are responsible for crisis management in the delivery of an efficient and cost-effective healthcare. Some of NHS Trusts managers, through the use of outsourcing arrangements to meet the ever-growing demands of their non-core services, are encouraging this exercise.

It is crucial that an integrated approach must be designed and incorporated into the main operational strategy of any Trust in order to reap maximum benefits of FM. By integrating the management and control of clinical and non-clinical services, senior Trust executives will have a one-stop direct accountability service functions which is dynamically linked to the patient care system.

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