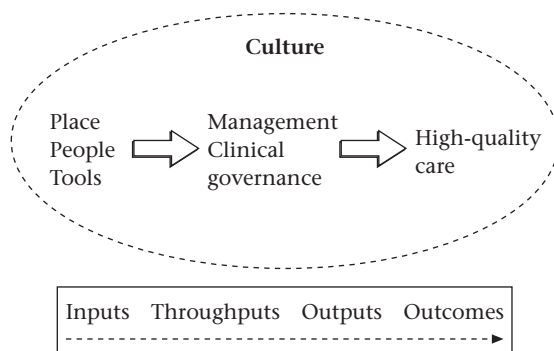*chapter* ten

# Improving performance within the hospital

## *Judith Healy and Martin McKee*

## Introduction

This chapter examines how the people working within a hospital, whether clinicians, managers or others, can optimize the quality of the patient care provided. The prerequisites for high-quality care were identified in Chapter 7 as facilities, people and knowledge; it was also noted that social capital, as manifest by a supportive culture, is increasingly being recognized as a valuable input in its own right. Within the hospital these contribute to the more traditional elements (Figure 10.1): place (the facilities within which the hospital operates), people (the human resources available to it) and tools (encompassing not just equipment but also the knowledge required to use it effectively). In this model, social capital, or culture, is considered as an overarching input, interacting with each of the others. Here we identify examples of how hospital

**Figure 10.1**  Improving health care from inside the hospital

management can encourage a culture that supports staff and patients. The chapter concludes by examining how these elements can be brought together within a coherent overall programme through strategies such as clinical governance. The overall questions that this chapter addresses are: What strategies are hospitals adopting to improve patient care? What is the evidence that these strategies are successful?

## Hospital inputs

We begin by considering the inputs that are available within the hospital and associated strategies that can be used to improve hospital performance. Chapter 7 discussed how external agencies harness such inputs to influence hospital activities. This chapter shifts to an internal perspective. Since there are many other textbooks on staff and budgetary management, we concentrate here on three types of inputs – the place (the building and its internal design), the people (the health care staff), the tools (the technology) – as well as the hospital working environment (a supportive culture).

### *The place*

Across the world, many different types of buildings are used as hospitals: medieval monasteries, purpose-built skyscrapers, converted factories and even tents in zones of conflict such as the Balkans. Once the essentials are in place, such as a roof, heating, lighting and running water, does it matter what the building looks like? How important is design to the operation of a hospital? As discussed in Chapter 4, the current configuration of hospitals reflects their historical origins and subsequent development. Thus, understanding why hospitals look the way they do today requires reflecting on how they have evolved over time.

   The design of hospitals has been influenced by several sets of ideas (Figure 10.2). These include ideas about society and people (such as religious beliefs and political views on how much to spend on hospitals), ideas about architecture and building, ideas from medicine and nursing (such as germ

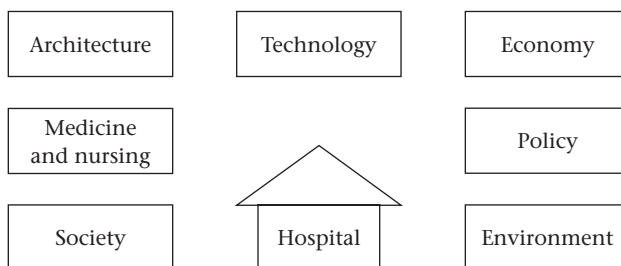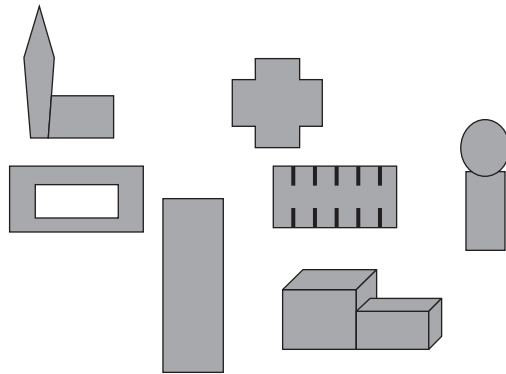**Figure 10.2**  Factors influencing hospital design

**Figure 10.3**  Various types of hospital design



theory) and ideas from health care policy (Francis *et al.* 1999). Ideas about society and architecture were dominant in earlier centuries, whereas ideas from medicine and health policy became more important in the twentieth century, as did the more recent concern about the environment.

  People's expectations of a hospital have changed over the centuries. Until the nineteenth century, the appropriate place to be ill was at home. Only those who could not afford to pay for physicians and nurses to care for them at home went into a hospital. Hospitals were associated with death, and the term 'patient' emerged as a description of those who were waiting patiently to meet their maker (James and Tatton-Brown 1986). Figure 10.3 suggests different types of hospital design. Since hospitals in western Europe originally were attached to religious institutions and medical treatment was of limited effectiveness, communication with God was more important than with a physician. The hospital was designed in such a way that the sick could see the altar at the end of the ward, thus giving rise to the cruciform design. This hospital design emerged by the mid-fifteenth century in Italy, consisting of four wards radiating from a central altar. The cruciform plan was taken up across Europe in the sixteenth and seventeenth centuries (Pevsner 1976) and, especially for asylums, continued into the nineteenth century. The radial plan of the seventeenth and eighteenth centuries suggested an octagonal church at the centre of eight radiating wards.

  The next type of hospital design had detached pavilions on either side of a courtyard, with a church at its end. Some pavilion buildings, most notably French hospitals, were based also on the geometric designs of the Boullée–Ledoux–Durand school of architecture. The later advantage of cruciform and radial plans was that they made it easier for staff to monitor patients from a central point.

  Medical and nursing needs and health beliefs played little part in hospital design until the mid-nineteenth century. Beliefs about miasma then became influential and miasma theory saw the chief enemy of the sick as stale air. The views of Florence Nightingale on hospital design and nursing practices in her

*Notes on Nursing* (Nightingale 1860) were based on miasma theory, which supported the building of hospitals based on an airy pavilion design, with patients lying in neat rows of beds along the ward.

Hospital design changed radically in the late nineteenth century, reflecting the ascent of germ theory. Good plumbing, hand-washing by physicians and nurses and the separation of infectious patients then became more important than vigorous ventilation. Hospitals were designed to promote antiseptic and aseptic practices. For example, staff treating patients must be able to scrub their hands under running water with chlorine or carbolic soap. Hospitals were designed, furnished and equipped to minimize the transmission of infectious diseases. These measures, combined with the introduction of anaesthesia and later X-rays, fundamentally changed the nature of surgery. By the 1880s, operating theatres and hospitals were becoming hygienic and well equipped.

Hospital design now revolved around the requirements of medical and nursing care and, increasingly, the demands of new technology. The function of hospitals shifted from custodial care to active intervention. The presence of an operating theatre came to define a hospital. The number of beds increased with patient demand as hospitals offered safer and more successful inpatient treatment. The middle classes increasingly came to hospital for the best health care and also expected good facilities and polite service. These trends all produced a massive increase both in the complexity and size of hospitals. This can be illustrated by the doubling of space per bed in hospitals in the United Kingdom, from 20 $m^2$ to 40 $m^2$ in the first half of the twentieth century (James and Tatton-Brown 1986).

By the latter half of the twentieth century, many countries were using standard hospital designs based on pre-fabricated components, a model applied equally to schools, apartment blocks and supermarkets. This led to the construction of compact many-storey buildings, which brought significant savings in construction costs (Martinez 1986). Within such a purpose-built building, hospital design aimed to produce a fully functional and integrated organization. This design was based on the relationships between the nursing area (where patients spend their stay in hospital), the clinical zone (diagnostic and treatment facilities) and the support zone (facilities that support the running of the hospital) (James and Tatton-Brown 1986).

Building strategies can be classified into two groups: vertical and horizontal (James and Noakes 1994). In vertical strategies, the zones are arranged one above the other so that the movement is mainly vertical. Models vary from the single tower-on-podium to articulated slabs-on-podium and vertical monoliths. In horizontal strategies, the zones are linked together laterally, so that the movement is mainly horizontal. This includes the nucleus strategy that was developed in response to the need for growth and change, whereby a hospital is built in stages, the first stage being a 300-bed nucleus, capable of expansion in stages to 600 beds.

The high vertical building, a response to the need for a large hospital on a small urban site, has rarely been a success. The high-rise block building based on industrial conveyer-belt principles did not offer a therapeutic environment for patients or a functional work environment for staff (James and Noakes 1994).

Many hospitals in Europe, however, are not purpose-built but have as their core an old building around which later additions are built. The sites of old, prestigious hospitals in inner cities are often architectural nightmares left over from the building dreams of earlier decades.

The continuing design challenge is how a hospital building can adapt to changes in its internal and external environment. An optimal design is one that inhibits change of function least rather than one that fits a specific function best. This strategy aims to combat obsolescence; the perennial problem for the hospital planner is that, by the time a new hospital is designed and built, it is already out of date. The key issue, therefore, is flexibility. The second challenge is that, despite some common features, there is no one standard hospital model. Hospitals must be designed to fit the requirements of different countries and localities: the population health needs, the building budget, the particular site, the climate and the cultures. To this we should add the more recent concern about the environment, such as the environmental footprint the hospital makes on its surroundings in terms of energy use and waste disposal. The hospitals participating in the WHO Regional Office for Europe network Hospitals for Health are discussing some of these issues.

### A therapeutic design?

An important issue is whether hospital design can, itself, have a therapeutic value. This concept was much debated in the twentieth century (and unsuccessfully applied) in relation to psychiatric hospitals (Scull 1979). More recently, the therapeutic potential of hospital design gained credence following a study of patients undergoing cholecystectomy in a Pennsylvania hospital. Twenty-three surgical patients assigned to rooms with windows looking out on greenery had shorter post-operative hospital stays and required less pain relief than 23 matched patients in similar rooms with windows facing a brick building wall (Ulrich 1984). Although it is less researched, many health professionals have argued that the use of art in a hospital brings therapeutic benefits (Glanville 1996).

These ideas have been developed most extensively in the United States using the Planetree model (Blank *et al.* 1995). This model also has been adopted in Sweden, where some recent hospital designs put patient-focused care principles at the centre of hospital planning, with the aim of making the hospital a supportive environment for patients and staff (Dilani 2000). Patient-friendly hospital design, which pays attention to colour, shape and furnishings as well as to easier interactions with staff, can be a tool for empowering patients. Furthermore, it has been shown to provide higher levels of patient satisfaction than conventional designs (Martin *et al.* 1998). Similar interventions, in Norway and the United Kingdom, also suggest higher levels of patient satisfaction, lower use of potent analgesia and earlier discharge from hospital (Lawson and Phiri 2000).

Considerable efforts have been made to adapt the hospital environment and its procedures to the needs of children (Pletinckx 2000). The research evidence on the psychological and therapeutic effects of a stay in hospital has been

**Box 10.1** The model Children's Charter of the Department of Health of England

- Your child to be cared for in a children's ward under the supervision of a specialist paediatrician
- Your child to have a qualified, named children's nurse responsible for his or her nursing care
- To be able to stay in the hospital with your child
- If your child is having an operation and where circumstances permit, you can expect to accompany them into the anaesthetic room and be present until they go to sleep
- To be told what pain relief will be given to your child
- The health system to respect your child's privacy, dignity and religious or cultural beliefs
- Your child to be offered a choice of children's menus
- To have facilities to breastfeed your child
- Your child to wear his or her own clothes, and have personal possessions
- The hospital to be clean, safe and suitably furnished for children and young people
- You can expect all the staff you meet to wear name badges, so that you know who everyone is, and for security
- Your child to have the opportunity for play and meet other children
- Your child has the right to receive suitable education

*Source*: Department of Health (1996)

taken up more readily in relation to children than adults. For example, some hospitals have adapted variations on a children's charter: a statement of what children and their care-givers can legitimately expect from a hospital (Box 10.1).

Generalizing from these human aspects of hospital design is difficult, because of the relative lack of research and because factors may vary between cultures. Nevertheless, these studies demonstrate the potential for relatively simple interventions (Scher 1996). For example, focus group discussions at one hospital highlighted the importance of the view from the bed, especially among bedridden patients, the quality of washing facilities, privacy and the ability to control noise levels (Lawson and Phiri 2000). A study in Germany identified specific colour preferences for rooms, furnishings and bed linen: beige, white, green and pink (Schuschke and Christiansen 1994). Other cultures might have other colour preferences, but hospital interior design does matter to patients. The main message, however, is that patients should be consulted on hospital design, not just to increase patient satisfaction but to achieve better therapeutic outcomes.

A second issue that is often overlooked is access to the hospital by patients, most of whom are elderly, disabled or temporarily incapacitated. For example, a study in the United Kingdom found that most hospital lifts were inaccessible to those with limited mobility or with visual or hearing impairments (Brown *et al.* 1997). Research involving people using wheelchairs identified various

frustrations: issues of independence, the attitudes and lack of understanding by others and lack of involvement of people with disabilities when facilities are designed (Pierce 1998). These were similar to issues emerging from a study of the childbirth experiences of mothers with physical disabilities (Thomas and Curtis 1997).

Although some hospitals have done much to adapt to the needs of people with disabilities (Moore 1997) and considerable evidence-based guidance is available (Jones and Tamari 1997), many hospitals remain essentially inaccessible or unresponsive to those who need them most. Although well recognized by disabled people and their care-givers, this issue has received rather less attention in the scientific literature. Policy-makers should ensure that hospitals are accessible to people with disabilities and should also address the wider issue of disempowerment that prevents such views being taken into account (Fawcett *et al.* 1994).

A third issue is the need to ensure that hospital design reduces, rather than increases, the risks of infection (discussed in Chapter 3). This vast topic encompasses the need to design cooling systems that do not spread *Legionella* bacteria as well as promoting hygienic practices in hospital kitchens to reduce the risk of food poisoning among staff and patients. Despite the threats posed by the growth of hospital-acquired infections, including antibiotic-resistant bacteria, many hospitals still have inadequate or inaccessible hand-washing facilities (Fox 1997; Kesevan 1999). Some physicians still fail to wash their hands between patients even where there is a clear risk of cross-infection (Daniels and Rees 1999). Poor design also can negate hygienic efforts. For example, in one study, 60 per cent of surgeons had to re-scrub because their hands had desterilized through insufficient scrub room space (Morgan-Jones *et al.* 1997). Hospital patients also are at risk from injuries from poor design. Again, relatively simple measures can reduce risks. In one study of falls among elderly patients, only 17 per cent of those falling on a carpeted floor sustained injuries compared with 46 per cent of those who fell on vinyl (Healey 1994).

Finally, although this chapter focuses primarily on the needs of patients, we should not overlook the needs of staff, many of whom live on hospital premises or spend long working hours in the hospital. Their legitimate expectations must also be taken into account in the provision of high-quality residential accommodation.

Looking to the future, trends in four rapidly developing areas of health technology have implications for the built environment: the miniaturization of diagnostic equipment, developments in remote diagnostic imaging, minimally invasive surgical procedures and therapeutic interventions whereby drugs are targeted to an organ or a specific cell (MARU 1996). These new techniques and equipment mean not only that diagnosis is made easier and safer for patients in a more compact environment, but also that the patient and specialist do not have to be in the same location. The challenge facing policy-makers is to ensure that hospitals adapt to these changing circumstances while continuing to provide welcoming environments that are conducive to physical and mental healing (Francis *et al.* 1999).

## *The people*

Hospitals are labour-intensive enterprises that depend on their staff to achieve cost-effective outcomes for patients. Staff management, therefore, is a major challenge for hospital managers. The hospital workforce in industrialized countries is highly professionalized and contains a multiplicity of occupational groups, who are stratified vertically (according to occupation) and horizontally (in terms of hierarchical levels). Getting the levels and mix of hospital staff right involves two main considerations: first, ensuring that the hospital has the appropriate mix of skills for the tasks that need to be undertaken and, second, ensuring that those employed are well trained and highly motivated.

This implies that the hospital workforce should be managed actively within a strategic framework. This can range from an incremental approach, putting in place the appropriate policies and working gradually towards defined goals, or it can involve a fundamental re-engineering of the hospital workforce (see Chapter 11). Chapter 14 explains that process re-engineering 'redesigns job responsibilities and determines who does the work, where the work is located and by what processes or patterns the work will be done'. Re-engineering covers a miscellany of approaches as follows: grouping patients in terms of care requirements, creating multidisciplinary teams, matching skill and function, downsizing the workforce, developing work protocols, setting performance standards, decentralizing services such as laboratory tests, redesigning the physical environment, implementing total quality management and offering performance incentives such as recognition, promotion, cash or other in-kind rewards. Re-engineering has been advocated enthusiastically, but rigorous evaluation so far has found few clear benefits (Walston and Kimberley 1997), while some doubt that the costs and practices prevailing in the United States can translate to a European setting (Hurst 1995). The huge literature on personnel management (Armstrong 1991) and the many rapidly changing management fads are beyond the scope of this chapter, so here we select two issues of particular relevance to hospital managers: skill mix and good employment practices.

### Skill mix

Those managing a hospital must decide on the right mix of staff to deliver effective care. The scope for multiskilling and task delegation in a western European hospital depends largely on whether certain activities are the statutory responsibility of specific professional groups. Professions such as physicians and nurses retain exclusive jurisdiction over certain tasks, which in some countries are protected by statute. The history of professions in industrialized countries is characterized by competition over work jurisdictions (Abbott 1988). The classic comparison is between the United States and United Kingdom. In some states of the United States, physicians have a monopoly on delivering babies but nurses can give some anaesthetics; in the United Kingdom, midwives deliver most babies and anaesthesia is exclusively a medical responsibility. This is primarily because, in the United States, delivering a baby attracts a fee, and the presence of a medical anaesthetist would oblige the surgeon to hand over a larger proportion of the fee for the operation.

The potential for substitution between hospital staff is a key element of re-engineering and has attracted much attention, both to produce better services and, more often, to cut costs. Traditionally, hospitals have very rigid demarcations as to which staff can undertake which tasks. Efforts to introduce more flexibility in service delivery through staff substitution have been facilitated in some countries by a move away from historical professional demarcations towards a competence approach. This first defines the task and then asks who could perform it most cost-effectively (Armstrong 1991); in effect, an emphasis on competence rather than credentials and making it possible to break the link between a job and a particular professional jurisdiction. The substitution debate has centred around three main types of initiatives:

- substitute less expensive and less highly trained staff;
- expand the task jurisdictions of existing staff; and
- develop new occupational groups.

*Substitution*
The main thrust is to substitute less expensive and lesser trained staff. This has progressed most at the interface between medicine and nursing (see Chapter 11). In the countries where nursing is highly professionalized, there is considerable evidence that qualified nurses often achieve better results than physicians at some tasks, partly because they spend more time with patients (Shum *et al.* 2000). The second area is the substitution of nursing assistants for certified nurses, as noted later. There is a large literature on nursing skill mix, but as Chapter 11 indicates, there is no unanimity on whether cost savings result from substituting less highly trained nurses for more highly trained ones. Another area is the interface between medicine and pharmacy, with pharmacists taking responsibility for tasks such as monitoring anticoagulation therapy.

Substituting tasks between professionals is not, however, simply a technical exercise. Delegation tasks that involve supervision is usually more acceptable, whereas transferring responsibility is more problematic. Such transfers involve shifts in professional power and may therefore be strongly contested, especially since this may mean considerable change in the roles of the groups involved.

Some argue that the process of delegation to less intensively trained staff in the United States has harmed the quality of care. For example, cost-containment strategies in the United States in the 1990s led to many registered nurses being replaced by health care assistants (Brannon 1996). Chapter 14 notes some possible adverse consequences: units and hospitals with more and better-trained nurses achieve better patient outcomes.

The expected cost-efficiency does not always follow. A nurse-led service may not be any cheaper (Venning *et al.* 2000), as nurses then demand greater rewards for their additional skills and responsibilities and their extended role may lead to additional services being provided (Richardson *et al.* 1998). Furthermore, professional groups taking on tasks that were previously the responsibility of physicians may, reasonably, expect a level of discretion and decision-making power similar to that of physicians. Thus, there may be sound reasons, based on effectiveness, to give professionals other than physicians an

enhanced role in the provision of care, but this may not save money in the long term.

*Expansion*
The second strategy is to expand the jurisdiction of existing occupational groups. In some countries, nurses take much greater responsibility for delivering care to patients with chronic illnesses, often running clinics and prescribing within guidelines for patients with conditions such as asthma and hypertension. Nurses have altered their work jurisdiction in three areas, which often brings them into conflict with other occupational groups: technical tasks have been delegated from medicine; routine nursing tasks are increasingly delegated to aides; and psychosocial assessment of patient needs competes with social workers (Gardner and McCoppin 1989).

*New cadres*
The third strategy is to develop new occupations. Occupational groups in the medical workforce continue to proliferate. For example, many practical tasks are being delegated by professional groups to new groups, such as taking blood samples, now undertaken by specially trained phlebotomists in many countries (McKee and Black 1993). New technical specialties have arisen as the technical content of clinical care has become more sophisticated. Thus, this third strategy in many ways runs counter to the multiskilling trend that encourages more flexibility, whereby occupational groups undertake some agreed tasks (especially in an emergency) that otherwise by convention fall within another occupational jurisdiction.

## Good employment practices

Several employment practices can be identified that aim to recruit and maintain a high-quality and well-motivated workforce. These are the sort of policies and practices that constitute good staff management in large organizations, including hospitals, in many high-income countries (Table 10.1). Good staff management involves ensuring that jobs offer high levels of staff satisfaction. This

**Table 10.1**   Good employment practices

| | |
| --- | --- |
| Skill mix | Achieve the right numbers and mix of staff |
| Staff development | Training and development based on life-long learning |
| Retention | Policies addressing staff turnover |
| Equal opportunities | Policies on recruitment and harassment |
| | Family-friendly policies |
| Healthy workplaces | Policies on sickness absence |
| | Policies on workplace accidents |
| | Occupational health services |
| Staff involvement | Involve staff in policy decisions |
| | Encourage staff to identify problems and solutions |

*Source*: Department of Health (1998)

calls for ensuring that staff are empowered to participate in decision-making, are fairly rewarded, have equality of opportunity, are enabled to develop their skills through a process of life-long learning, have employment security and have a satisfactory work environment. We discuss some policies of particular relevance to hospitals, as follows.

*Staff development*
In the past, a basic professional qualification was considered sufficient to allow one to practise until retirement. The rapidly changing nature of health care means that hospital staff need to engage in life-long learning, not least to retain a basic level of clinical competence. This is necessary to ensure high-quality patient care. It is also in the financial interests of hospitals, since, as discussed in Chapter 7, hospital employers increasingly are subject to grievance complaints from patients as well as malpractice suits. Hospitals have a clear responsibility to monitor the care provided by those who work within their walls and to put in place mechanisms to deal with staff who fail to meet such standards. Importantly, continuing training can also enhance job satisfaction and improve staff retention rates. These issues are discussed later in this chapter under the heading of 'Clinical governance'.

*Retention*
Poor management of staff contributes to a downward cycle of low morale and stress, often apparent in high rates of short-term sickness absence and high staff turnover. Salary levels, working conditions and job security are important in both retaining and motivating staff. Grindle and Hildebrand (1995: 441) argue that a pay packet is not the only motivator, however, even in low-income countries: 'We . . . found that effective public management performance is more often driven by strong organizational cultures, good management practices, and effective communication networks than it is by rules and regulations or procedures and pay scales'. Although this study refers to public-sector management in general, it has particular relevance to the staff who work in hospitals. People want to feel that the organization has an important and clear mission and that they are part of this endeavour. Job satisfaction is important in that people should enjoy the work they do and feel it worthwhile. People should regard themselves as part of a well-regarded profession or occupation that has social status in society. People want recognition and respect from peers and managers for the tasks that they do well. These findings are important, since they suggest that, even where financial resources are very constrained, staff retention and performance can be improved through efforts to create effective organizational cultures. For example, in hospital intensive care units, the best predictors of better patient outcomes were organizational factors such as a patient-centred culture, strong professional leadership, effective collaboration between staff and an open approach to problem-solving (Zimmerman *et al.* 1993).

*Equal opportunity*
Many hospitals now describe themselves as an equal opportunity employer, paying attention in their recruitment, management and promotion practices

to avoiding discrimination based on any or all of the grounds of ethnic origin, national origin, religion, disability, age, gender and sexual preference. For example, the United Kingdom National Health Service set up a women's unit in the 1990s to promote equal opportunities for women and to develop more women-friendly working practices, crucial in a sector where the majority of the workforce are women (Adams 1994). The shortage of qualified nurses in the European Union has focused attention on strategies for retaining women in the workforce (Versieck *et al.* 1995). Hospital employers, like other employers, should also ensure that they have in place policies and procedures to deal with sexual harassment in the workplace (Davidhizar *et al.* 1998). The issue of age discrimination recently has come to the fore in the United States in terms of which staff are made redundant during hospital restructuring (Fiesta 1997).

Offering a range of family-friendly work practices (Forth *et al.* 1997) is especially important for the hospital workforce, most of whom are women. Such practices include part-time work, flexible working hours, parental leave, compassionate leave, telephone access and child care. Thirty-two countries have ratified the Workers with Family Responsibilities Convention of the International Labour Organization. The European Union has urged its member countries to promote family-friendly workplaces and has signalled a new directive on the reconciliation of work and family responsibilities. Such a reconciliation will not be easy. The organizational culture generally frowns on the family intruding on work (Wolcott and Glezer 1995). A business case, however, can be made for providing benefits that improve staff retention, especially when these staff are highly trained workers, and where recruitment and induction costs are considerable (Galinsky *et al.* 1991). Some countries in eastern Europe previously had family-friendly workplaces, such as Hungary, which had generous maternity benefits, although it has also been argued that the provision of child care at the workplace tended to deny mothers the option of remaining at home. The problem is that many of these benefits and practices have been dismantled in a bid to make enterprises more efficient. In contrast, many western European firms, especially those with highly skilled women workers, such as hospitals, are looking for ways to retain women with children in the workforce; the shortage of qualified nurses in many European Union countries is an example.

### *The tools*

Hospitals have developed in part because they are the repositories of much health care technology (knowledge, skills and equipment). Technology has transformed the design and functions of hospitals (as discussed in Chapter 3), plays a crucial role in improving the performance of hospitals, influences the skill mix in the hospital workforce and has enormous cost implications.

The stock of technology varies enormously across industrialized countries (Banta 1995). An example is the number of magnetic resonance imaging scanners, with 18.8 per million population in Japan in 1996 (the highest rate), 2.5 in France and 1.1 in the Czech Republic (OECD 1999). Another major item of expenditure for hospitals is the installation of a new information and

communication technology system. This can handle a complex range of tasks: staff communications within the hospital, computerized patient records, patient monitoring, the ordering of clinical tests, stock control and telemedicine (van Bemmel and Musen 1997). Many countries now involve national or even cross-national bodies in technology planning, as discussed in Chapter 7, and their deliberations potentially guide technology decisions made by individual hospitals.

Chapter 12 explores the adoption of technology within hospitals and notes the array of factors that influence such decisions. In case studies in hospital trusts in the United Kingdom, clinicians made decisions on adopting technology, with hospital managers involved only in big-ticket items or when departmental budgets were exceeded. There was little evidence that decisions were based on good evidence of clinical effectiveness. The issue, therefore, is how to provide the information that hospitals need when investing in new technology. There is a large and growing body of evidence on the efficacy and cost-effectiveness of health technology, but the extent to which hospital managers use this varies.

## *A supportive culture*

Policy-makers have paid relatively little attention to the final prerequisite for high-quality health care: the culture of the hospital. Its significance has emerged from a growing body of research on the relationship between organizational culture and quality of care. Many studies have found tangible benefits to patients from a supportive culture among clinical staff (Shortell *et al.* 1995). Such research helps explain why some hospitals perform better than others (discussed in Chapter 14). We now describe two international programmes that seek to develop hospital cultures that support staff and patients.

The Health Promoting Hospitals programme was developed by the World Health Organization based on the principles of the Ottawa Charter on Health Promotion (WHO 1986) and the Ljubljana Charter on Reforming Health Care (WHO 1996). A workshop in Vienna in 1997 agreed on key principles and set up the WHO International Network of Health Promoting Hospitals for participating hospitals. The programme seeks to foster participation by patients, staff and others outside the hospital, to improve communication with other levels of the health care system, to offer information and education, to reorient hospitals towards health promotion and to encourage learning from experience (WHO 1997).

The Baby-Friendly Hospital Initiative, developed by UNICEF and the World Health Organization, urges hospitals to promote breastfeeding, which could save the lives of 1.5 million babies each year (UNICEF 1996, 1999). In 1990, 31 governments agreed to the Innocenti Declaration on the Promotion, Protection and Support of Breastfeeding. This set out operational targets for all countries to achieve by 1995 in four areas: a national breastfeeding committee, the certification of hospitals as baby-friendly, regulations on the marketing of breastmilk substitutes and the right to paid maternity leave and breastfeeding breaks at work (UNICEF 1995). A hospital is designated

**Box 10.2**  Baby-Friendly Hospital Initiative: ten steps to successful breastfeeding

Every facility providing maternity services and care for newborn infants should:

- Have a written breastfeeding policy that is routinely communicated to all health care staff
- Train all health care staff in skills necessary to implement this policy
- Inform all pregnant women about the benefits and management of breastfeeding
- Help mothers initiate breastfeeding within one half-hour of birth
- Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants
- Give newborn infants no food and drink other than breastmilk, unless *medically* indicated
- Practise rooming in – that is, allow mothers and infants to remain together 24 hours a day
- Encourage breastfeeding on demand
- Give no artificial teats or pacifiers (also called dummies or soothers) to breast-feeding infants
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic

A Baby-Friendly Hospital does not accept free or low-cost breastmilk substitutes, feeding bottles or teats, and implements these 'Ten Steps' to support breastfeeding.

*Source*: Adapted from UNICEF (1999: 6)

baby-friendly when it has agreed not to accept free or low-cost breastmilk substitutes, feeding bottles or teats and implements ten specific steps to support breastfeeding (Box 10.2). Since the initiative began, nearly 15,000 hospitals in 128 countries have been awarded baby-friendly status. Information for hospitals wishing to participate in the network is available at http://www.who.dk/WHO-Euro/about/babies.htm

The next section considers how hospital management might bring the various resources together in the most effective way. We focus on clinical governance as an emerging concept in health care management. This is an approach that brings the hospital back to its primary goal, that of caring for patients, by ensuring that managers and health care professionals work together to optimize the care provided.

## From management to clinical governance

Public-sector management underwent a major transformation in some countries during the mid-1980s. The new managerialism emerged from a private-sector paradigm. The emphasis was on producing a measurable product, devolving power to technocratic managers, achieving specific goals and harnessing the organization to broad government policies (Considine 1988). The discourse of management had become the dominant language in the public-service culture

by the early 1990s in countries such as Australia and the United Kingdom (Pusey 1991; Gray and Jenkins 1993). This managerialist culture aimed to transform spenders into managers, make managers more accountable, flatten previously hierarchical management structures, engineer competition to produce greater efficiency, link inputs to results and set performance indicators against which to assess staff compliance and productivity (Healy 1998). These management techniques were applied later in hospitals than in the rest of the public sector, given the complexity of health care and the greater power of physicians.

One aim in transforming hospitals from budgetary units of government to autonomous public-sector organizations was to enable the managers to manage. Hospital managers, however, often are subjected to conflicting behavioural incentives arising from both the external and internal environment of their hospital (Chapter 9). For example, hospitals are expected to both balance the budget and invest in staff training.

Hospital management has also become a more political process, especially where ownership has been devolved to autonomous boards that include a range of stakeholders. Furthermore, the respective responsibilities of hospital managers and board members are sometimes blurred, while other external stakeholders such as purchasers (as discussed in Chapter 7) now have considerable say over internal hospital activities (Shamian 1998; Hoek 1999). The people who manage hospitals have changed in some countries, with responsibility for management shifting from physicians to clinical teams, and by the mid-1980s to professional managers (Harrison and Pollitt 1994). In many European countries, however, hospital directors are often physicians with little management training (Hansen 2000).

In the context of these more complex ownership and management arrangements, managerial strategies in some countries aim explicitly to enhance the quality of care and not just achieve financial targets. These approaches include medical and clinical auditing (the latter distinguished from the former by its involvement of several professional groups), as well as more wide-ranging programmes such as continuous quality improvement and total quality management (Berwick *et al.* 1992)

The essential elements of quality assurance are: defining criteria against which clinical practice can be assessed; developing standards that should be attained for each of these criteria; monitoring progress towards attainment; improving changing clinical practice; and revisiting the initial standards to determine whether they should be relaxed or enhanced (Black 1992). Such a cyclical and continuing process should involve everyone who can provide input into patient care, including the patient. Many texts address this extremely large topic (Morrell and Harvey 1999).

Total quality management is a concept developed in Japan after 1945 as a means of enabling Japanese industry to compete with the then-dominant United States manufacturers. Its key features are shown in Box 10.3. It is a means for hospitals to accentuate their focus on the patient and reduce what is increasingly being recognized as a relatively high rate of errors occurring in modern health care (Berwick and Leape 1999). It takes a whole-system approach, which will be increasingly important as the provision of health care becomes more complex and multidisciplinary.

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**Box 10.3**   Key elements of total quality management

- Making customers' needs a priority for everyone
- Defining quality in terms of customers' needs
- Recognizing the existence of internal customers and suppliers
- Examining the process of production rather than individual performance for explanations of flaws or poor quality
- Using sound methods of measurement to understand how to improve quality
- Removing barriers between staff and promoting effective team work
- Promoting training for everyone
- Involving the whole workforce in the task of improving quality
- Understanding that quality improvement is a continuous process

*Source*: Adapted from Moss and Garside (1995)

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The challenges involved in implementing quality assurance programmes have often been underestimated (Black and Thompson 1993) and, although attitudes have changed greatly in recent years, in some countries health professionals remain apathetic or suspicious. High-quality care depends on a supportive organizational context. Factors that have been found to support the development of quality assurance activities include fostering a culture of quality, ensuring that staff are able to participate; strengthening interpersonal skills; the use of quality assurance facilitators to gather and analyse data; assurance of confidentiality; involvement of all relevant staff; and evaluation of the overall process (Johnston *et al.* 2000).

### Patient-focused care

This increased emphasis on quality assurance has run in parallel with more attention to the concept of patient-focused care. Although it is self-evident that care should be focused on the needs of the patient, in reality many hospitals are run more for the convenience of the staff. Thus, in the traditional model, patients are admitted under individual specialist clinicians, who either 'own' them or transfer them to the care of another clinician. Junior medical staff and ward nursing staff manage patients, and the progress of a patient through a hospital and its many procedures is often inefficient and disorganized. The patient-focused concept attempts to address such problems through a range of methods (Chapter 11). Some of these issues are discussed in the following paragraphs.

*Multidisciplinary care*
The traditional single-specialty organizing principle of hospital structures and patient management is increasingly outdated. A patient in an acute care hospital today is likely to be older and sicker and to have more co-morbidity (for example, heart disease, hypertension and chronic lung disease related to smoking). Surgery on older and sicker patients runs a greater risk of multiple-organ

failure post-operatively, thus requiring intensive post-surgical monitoring (Hillman 1999). This suggests that, in some cases, patients should be defined less by the condition or body system being treated than by the severity of their overall condition, with management by a multidisciplinary team.

*Systems to detect iatrogenic illness*

Deaths in hospital, either from medical errors or hospital-acquired infections, have increasingly been recognized as a serious issue in most industrialized countries (Brennan *et al.* 1991). Furthermore, for every preventable death, there are many preventable serious complications. Drawing on the analogy of the system in use to report near-misses by aircraft, the National Health Service in England is setting up a mandatory reporting system for logging all errors and near-misses (Donaldson Report 2000). Initial work pointed to more than 850,000 adverse health events each year at huge cost; an example of persistent failure to learn lessons is that 13 patients have died or been paralysed since 1985 because a drug has been wrongly administered by spinal injection.

*Enhancing continuity of care*

Whereas in the past (as noted in Chapter 2) patients undergoing a complex series of investigations were admitted for a lengthy stay, they are now more likely to have a series of short admissions and outpatient visits. This requires a higher level of coordination. Importantly, it has been shown that patients undergoing non-urgent surgery have better outcomes under a system of co-ordinated care than a matched group (Caplan *et al.* 1998). Such coordinated care involved pre-admission assessment, patient education, admission to hospital on the day of surgery and post-acute care after discharge. This resulted in shorter lengths of stay, a reduced risk of wound infection and a higher level of patient satisfaction.

## *Clinical governance*

The parallel tracks of managerialism and quality assurance began to converge in the late 1990s, not least because real improvements in quality often require shifts in resources. This concept has been termed 'clinical governance', since it requires a hospital to integrate financial control, service performance and clinical quality (Scally and Donaldson 1998). Clinical governance within the hospital, therefore, encompasses a large range of activities, including improving information systems, implementing continuing professional development programmes and developing peer review systems. It builds on many of the elements developed earlier within the framework of total quality management.

   This has been taken forward in the United Kingdom, where the government has placed a statutory duty on all health care organizations to seek quality improvement through clinical governance (Secretary of State for Health 1997). In particular, the chief executive of a National Health Service trust is ultimately responsible for assessing the quality of services provided by the trust (NHS Executive 1998). This presents a major challenge for hospital managers, who must set up a structure to oversee and monitor the many staff and many

activities involved in a clinical governance process (Edwards and Packham 1999). Hospital chief executives are required to submit annual quality assurance statements on clinical governance arrangements in place in their trusts.

## Lessons and implications

Effective hospital care requires a combination of inputs. Facilities should be designed to be safe, be a pleasant environment in which to visit or work and be sufficiently adaptable to respond to changing needs and expectations. The workforce must be trained, highly motivated and participate in programmes of life-long learning. In addition, evidence is growing that a supportive environment not only makes a hospital a better place to work but improves patient outcomes. Concepts such as the WHO International Network of Health Promoting Hospitals offer many examples of good practice.

These inputs must be combined effectively. This requires new ways of working for both managers and health professionals. Management and quality assurance activities have often proceeded along two parallel but separate trajectories. The concept of clinical governance requires that these activities converge. This calls for involvement by all those working in the hospital in improving the quality of care, within a wider framework for optimizing the achievements of the health care system.

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