

The changing role of the hospital in Europe: causes and consequences

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ABSTRACT – The United Kingdom, faced with a legacy of long-term under investment, has embarked on a major programme of hospital development. This raises many questions. What factors influence the work of the hospital? How can hospitals continue to adapt to changing circumstances?

This paper draws on a recent study of the role of the hospital in Europe. It identifies major gaps in information about what hospitals do and how they are changing. International comparisons are especially difficult because of differences in definitions.

The challenges that hospitals face can be categorised under three broad headings: the health needs of the population; opportunities and constraints they face in providing care; and the consequences of wider societal and economic factors that shape their environment. Health needs reflect the composition of the population (births, ageing, and migration), changes in risk factors, and changes in public expectations. Hospitals gain opportunities, but also face constraints as a result of changes in the workforce on which they draw and the technology that is available to them. They must also work within the constraints imposed by wider societal developments, such as the economy. Hospitals must also take account of their role as centres of teaching and research, as well as their responsibilities to the local community.

Hospitals across Europe have changed considerably in the 1990s, with more people being admitted but staying for shorter periods. With the additional demands created by growing rates of day care and outpatients, hospitals are currently much busier places than in the past. There have also been considerable reconfigurations of hospitals in many countries. Some have been more successful in implementing change than others. Successful change is more likely where a whole system approach to health care is taken. Granting managerial autonomy to individual hospitals makes change less likely. Planning approaches are more successful than market-based ones.

Change often requires construction of new facilities. The increasingly rapid pace of change in

health care means that hospitals will have to adapt much more quickly than in the past. This will require a long-term programme of sustained and stable investment.

The United Kingdom has under invested in hospitals for decades. A visit to many British hospitals will reveal the consequences of a failure to replace antiquated buildings or even to undertake routine maintenance. The government has now decided that it is time to act, and in February 2001 announced the largest programme of hospital building for many years (£3.1 billion on 29 new hospital developments). This will involve the (re)development of acute general hospitals but also the creation of so-called ‘fast-track centres’ reserved exclusively for elective surgery¹.

This new development, along with the movement of other care traditionally provided in hospitals to community settings, raises questions about the current role of the acute hospital, how it might change in the future, and how change can be brought about.

Practitioners and policy makers face a problem in addressing these questions. Despite their central place in the health care system, hospitals as institutions have been subject to remarkably little research. Much of the published research is from the United States and concentrates on issues such as maximising profits or increasing market share. Relatively little is of direct relevance to those concerned with European hospitals, where profits and stock market ratings are not an issue. The alternative is to seek to learn lessons from neighbouring countries within Europe. But there are also problems with this. Thus, the policy-maker will look in vain for a concise summary of how each country obtains funds to build new hospitals, let alone an analysis of the strengths and weaknesses of different funding methods.

The area also abounds with problems of definition. What is a hospital? Can one really compare a small, 20-bedded cottage hospital in a rural area with a major teaching hospital? Limiting one’s analysis to hospitals that are apparently similar does not solve the problem of comparisons. For example, hospital medical specialists in the United Kingdom provide both inpatient and outpatient care, but ambulatory

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care was until recently provided separately in Germany. More prosaically, what is a 'hospital bed'? For a patient with respiratory failure there is a world of difference between an item of furniture with four legs and a mattress and one that comes accompanied by a team of trained staff, advanced technology, and backed up by a sophisticated laboratory.

The United Kingdom is not alone in undertaking major reviews of how health care is provided². Many countries face a similar challenge of undertaking change in the face of limited evidence. To aid this process the European Observatory on Health Care Systems has undertaken a major study on the changing role of the hospital in Europe³. This paper reports some of its key findings.

The pressures for change

Hospitals do not exist in isolation. They must constantly adapt to changing circumstances. The challenges that hospitals face can be categorised under three broad headings: the health needs of the population; opportunities and constraints they face in providing care; and the consequences of the societal and economic factors that shape their environment.

The work of a hospital is influenced by the nature of the population it serves. Populations change through births, ageing and migration. A change in the birth rate has obvious implications for obstetric care. Ageing populations are more likely to have complex, multi-system disorders which require procedures for co-ordinating the many different professionals that contribute to their care, such as the establishment of a stroke unit. Migrants may have specific health needs; for example, haemoglobinopathy services in areas where there are many people of Afro-Caribbean or Mediterranean origin.

Patterns of disease also change within populations. In the late 1950s, orthopaedic surgeons had to find new roles after the introduction of an effective polio vaccine and chemotherapy for tuberculosis. Since the 1970s, deaths from ischaemic heart disease in the United Kingdom have almost halved. While some of this decline is due to improved treatment, much can be attributed to changes in diet and falling rates of smoking among men. Deaths from motor vehicle accidents have fallen by 60%, although other diseases associated with alcohol are rising steeply.

Key Points

Hospitals are not only places to treat patients. They also have important roles in training and research, and have responsibilities to the wider society

The design and configuration of hospitals must be sufficiently flexible to adapt to changes in health needs, models of care, and public expectations

Change is easier to achieve where groups of hospitals are managed collectively. Devolution of control to individual hospitals makes restructuring more difficult

While some diseases, such as diphtheria, have almost disappeared, others, such as AIDS and nv-CJD, have emerged⁴. Even though the number of cases of nv-CJD in the United Kingdom is still small, the requirement to adopt disposable instruments for many surgical procedures will have enormous financial implications for hospitals.

Finally, hospitals must take account of changing public expectations. Events such as those in Bristol⁵ and Liverpool⁶ have fundamentally challenged the perceived authority and judgement of the medical profession. This has many practical implications, ranging from more constraints on pathology services to training health professionals in communication skills. The hospital must also take account of the diversity of expectations; for example, migrants and those from minority communities may have specific linguistic or cultural needs⁷.

The second set of factors relates to the opportunities and constraints hospitals face in managing their patients. There are two major factors: advances in technology and clinical knowledge; and changes in the hospital workforce. The consequences of changing technology are especially difficult to predict⁸. Some capital-intensive innovations may create pressure to concentrate services in larger hospitals. Others, such as near-patient testing and telemedicine may enable care to be dispersed.

The increasing pace at which knowledge is acquired and technology adopted makes life-long learning essential and creates pressure for systems of revalidation. Changes in the workforce, including gender mix, family structure, and expectations, also have major implications for hospitals, one example being the stated intention to include childcare facilities in all new hospital developments in the United Kingdom.

Finally, hospitals are influenced by their environment – most immediately by the economic climate. Growth in health care expenditure slowed across western Europe in the early 1990s as countries struggled to contain costs, and to meet the convergence criteria for monetary union (including the United Kingdom, despite it not having decided whether to adopt the Euro)⁹.

Those responsible for planning hospitals must consider more than patient care. Hospitals train health professionals and conduct the research that is needed if health care is to advance. Consequently, they must also adapt to changes in education, such as the transfer to universities of much nursing training in the United Kingdom. Changes in patterns of hospitalisation mean that more medical training is taking place in outpatient clinics, with implications for how these facilities are designed and organised¹⁰.

Hospitals must also take account of the changing nature of medical research. Global pressures, as well as the incentives for teaching hospitals arising from the Research Assessment Exercise, are leading to fewer, larger centres¹¹.

The hospital also plays an important role in its surrounding community. The European Union has recognised the contribution that hospitals make to local economies, especially in regions where there are few alternative sources of employment¹². This contribution extends beyond those directly employed by the hospital, also affecting suppliers and contractors. The existence

of a hospital may make it easier to attract inward investment. Conversely, the closure of a hospital may be the final blow to a community suffering from industrial decline. These factors weigh heavily on the politicians who make the final decisions on hospital developments.

This brief review has sought to identify some key issues for thinking about the future role of the hospital. It is apparent that those designing hospitals today face enormous uncertainty. Some things can be predicted but many cannot. The clear implication is that whatever design is chosen for the hospital of today must be flexible enough for the hospital of the future to adapt to very different circumstances.

The changing pattern of hospital activity in western Europe

In the second part of this paper we look across western Europe to ascertain how hospitals are changing. Several caveats are necessary. Words such as 'hospital' and 'bed' have many different meanings. Average length of stay, even though a widely used measure, is highly sensitive to changes in admission policies. Thus, a move to day surgery may, paradoxically, increase the average length of stay since this calculation now excludes those who would previously have stayed less than one night. Few countries record data from all their hospitals; for example, British data ignore the private sector¹³. Finally, there are fiscal incentives in some countries to exaggerate counts of patients and beds¹⁴.

Most importantly, the growing range of options open to health care providers, encompassing different types of inpatient and ambulatory care, increasingly makes data defined solely in terms of beds or hospitals obsolete. Instead, what is needed is information that combines facility-based utilisation with population-based treatment rates. Nonetheless, with a few exceptions where, typically, pan-European professional associations have collected specific data¹⁵, we are limited to traditional indicators of hospital use.

Western Europe has experienced a gradual but steady decline in numbers of acute beds despite considerable national diversity (Figure 1). Germany has nearly twice the European Union

average ratio of acute care beds to population, and despite a slightly steeper decline, Italy still has almost 90% more than the United Kingdom. The number of beds in the United Kingdom is, however, now recognised to be inadequate to meet current demands, stimulating a major expansion programme¹⁶.

Information about numbers of beds provides only a partial picture. A more comprehensive assessment requires knowledge of how many patients are admitted to hospital, how long they stay, and how intensively the bed stock is used.

The number of hospital admissions in relation to population increased in most countries throughout the 1990s (Figure 2). This rise would be far more dramatic if one-day admissions were included in the measure. Although comparative international data are not available, day case activity has increased enormously in many countries. For example, day case admissions in NHS hospitals in England increased by 330% between 1982 and 1998¹⁷.

Fewer hospital beds are being used but their use is much more intensive with shorter average lengths of inpatient stays (Figure 3). There is considerable diversity here, with patients in the United Kingdom staying less than half as long as those in Germany, where there have been structural obstacles to diverting patients to ambulatory care.

The increase in admissions of patients who stay for shorter periods, as well as the increases in day cases and outpatient attendances mean that hospitals are increasingly busy places.

The reasons for these changes are complex. Patients who would previously have remained in hospital for long periods are being discharged to nursing homes or to their own homes with help from community-based health and social care services, although this varies considerably between countries¹⁸. Developments in minimally invasive surgery and anaesthesia mean that new categories of patient are becoming candidates for surgery. Stays following surgery have shortened due to earlier mobilisation. However some of the observed changes are misleading as some patients who previously would have stayed for a prolonged period now undergo repeated admissions and discharges. This phenomenon, which is widely recognised if imperfectly quantified, has important implications for the organisation of care, implying the need for 'case-managers' to

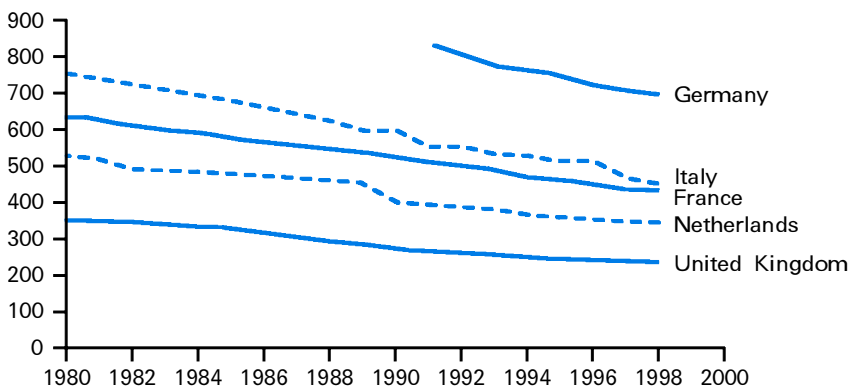


Fig 1. Hospital beds in acute care hospitals/100,000 population. Source: WHO Health for All Database.

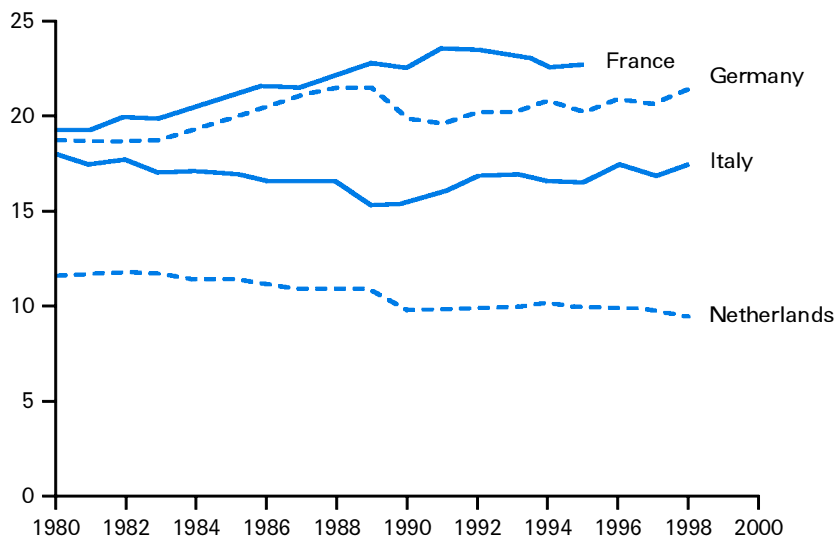


Fig 2. Inpatient admissions per 100 population (all hospitals). Source: WHO Health for All Database.

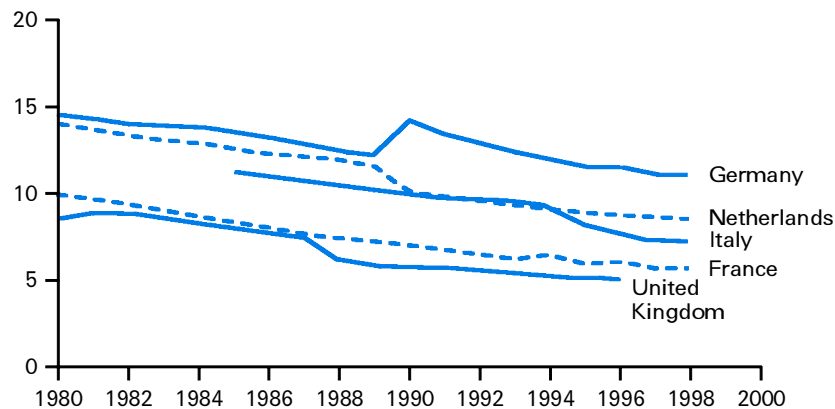


Fig 3. Average length of stay, acute care hospitals. Source: WHO Health for All Database.

co-ordinate a patient's path through a complex sequence of investigations, a role that a ward sister or charge nurse would previously have undertaken for inpatients.

Reconfiguring hospitals: what does and does not work

These changing patterns of patient management show that hospitals have responded to continuing pressures for change. In some countries, however, change has been more marked than in others. A reduction in bed numbers is a common theme across western Europe, although this is now being reversed in the United Kingdom in the light of evidence that it has gone too far. In general, it has been easier to close beds rather than entire hospitals. For example, Germany closed 7% of hospital beds between 1991 and 1997 but the total number of hospitals remained the same¹⁹. Closures of beds alone do not release significant savings since a considerable proportion of hospital cost is associated with buildings and other fixed costs. It is also essential to recognise that any savings are likely to be required for investment in more appropriate replacement facilities. The mechanisms used to reconfigure hospital systems have varied, in

part reflecting the tools available to the countries and agencies concerned.

Hospital reconfigurations have been more successful where several hospitals have been grouped under one management structure. The **United Kingdom and Ireland** are two of the few countries that have closed significant numbers of hospitals. In Ireland, regional hospital boards were able to rationalise facilities across multiple sites. In the United Kingdom, groups of hospitals were typically gathered into a 'Trust' that was subsequently able to reorganise its facilities.

Belgium used a regulatory approach in the 1980s with some success²⁰. The total number of hospital beds was capped and health insurance funds were allowed to reclassify some beds as 'nursing care', reimbursed at a lower rate than 'acute' beds, while an accredited 'hospital' must have at least 150 beds. These measures led to the closure of many small hospitals and the expansion of nursing homes.

In **Denmark**, where hospitals are the responsibility of counties, the government encouraged collaboration between adjacent counties, leading to the merger of many small facilities²¹.

France adopted a system based on regional planning²², with

26 regional boards created and charged with reducing acute care beds by 4.7%. Between 1994 and 1998, 17,000 beds were closed, in both public and private hospitals, accompanied by a major rebuilding programme, involving hospitals, free-standing dialysis units, facilities for patients with dementia, and cancer units. In **Norway**, reductions in beds also were accompanied by increases in facilities for ambulatory care²³.

Change is difficult where ownership, both formal and informal, is diffuse and incentives are mixed. In **Switzerland**, for example, despite consensus on a reduction in bed supply, there has been little reduction in capacity²⁴. Funding is divided between taxation and health insurance, and ownership is decentralised, involving cantons, municipalities and the private sector. In **Italy**, reductions in both beds and hospitals varied among regions, and the difficulty in implementing change was attributed partly to the persistence of competing incentives, with many physicians working in both public and private sectors²⁵.

Change has been slower in countries that set up an internal market, where purchasing and provision was separated, and where individual hospitals were given autonomy. Several factors are at work. First, market forces helped to identify structural problems but not the appropriate solutions, since markets pay less attention to the health needs of the population than to corporate, managerial and professional interests. Second, giving autonomy to hospital managers also empowers them to resist change, often by assembling powerful alliances among health professionals and local government. Third, the withdrawal of resources can be met by strategies other than closure, such as failure to maintain buildings and equipment or simply by accumulating a deficit. Finally, the political visibility of major hospital closures makes it difficult for politicians to distance themselves from unpopular change, even when they seek to transfer responsibility to 'the market'.

Politicians often overlook the fact that changes in the configuration of hospitals usually require construction of new facilities and the expansion of ambulatory care. Further, the cost of adapting hospitals built a century or more ago to modern standards may far exceed that of building a new facility. The need for investment has already been noted in the examples from France, Norway and the United Kingdom. **Spain** has also confronted the legacy of many large but obsolete facilities²⁶.

Conclusion

Hospitals have always adapted to changing circumstances, albeit less rapidly than might be desirable. In the future, however, the pace of societal and environmental change will accelerate. But hospitals cannot change rapidly; for example, their structures are, quite literally, set in concrete, while their cultures are hard to transform.

A key finding from this European comparison is that hospital reconfiguration is easier when undertaken from the perspective of the overall health care system. A system-wide planning approach is needed since any change to one part of the health care system has repercussions for other parts. For example, those countries that fragmented their health care provision in

the interests of enhancing local autonomy, such as Hungary, have found change extremely difficult²⁷. Further, the internal market proved unable to tackle the over-supply of hospitals in central London, since this required a planning solution, as pointed out in the Tomlinson Report²⁸. However the implementation of the report was complicated by the retention of the internal market.

A second finding is that change requires investment. It will often be necessary to build new facilities that are more appropriate for modern models of care. This has wider political implications. The long-standing practice of under investment in the United Kingdom is not confined to health care, extending to other types of infrastructure, in education and transport²⁹. The government has sought to create policies that will enable long-term investment to proceed. This will involve borrowing to support investment at some phases of the economic cycle, a policy that has been criticised by the European Commission, which looks at each year individually³⁰. In this case the policy of the European Commission clearly impairs sustained investment in health care facilities.

The many ways in which hospitals in Europe are changing offer enormous opportunities to clinicians, managers and policy-makers for mutual learning. The need for more precise information is illustrated by research that shows how differences in the process of care translate into differences in outcomes. Thus, the finding that cancer survival in the United Kingdom lags behind most of western Europe³¹ has been extremely influential in the quest to improve British cancer services. Information is needed at several levels. On one level, research could draw on the many natural experiments that exist across Europe to identify differences in the process and outcome of care. At another, descriptive studies can compare how hospitals in different countries respond to similar challenges³². Finally, the continuing exchanges of trainees and specialists within Europe offer an effective mechanism for cross-fertilisation of good practice.

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