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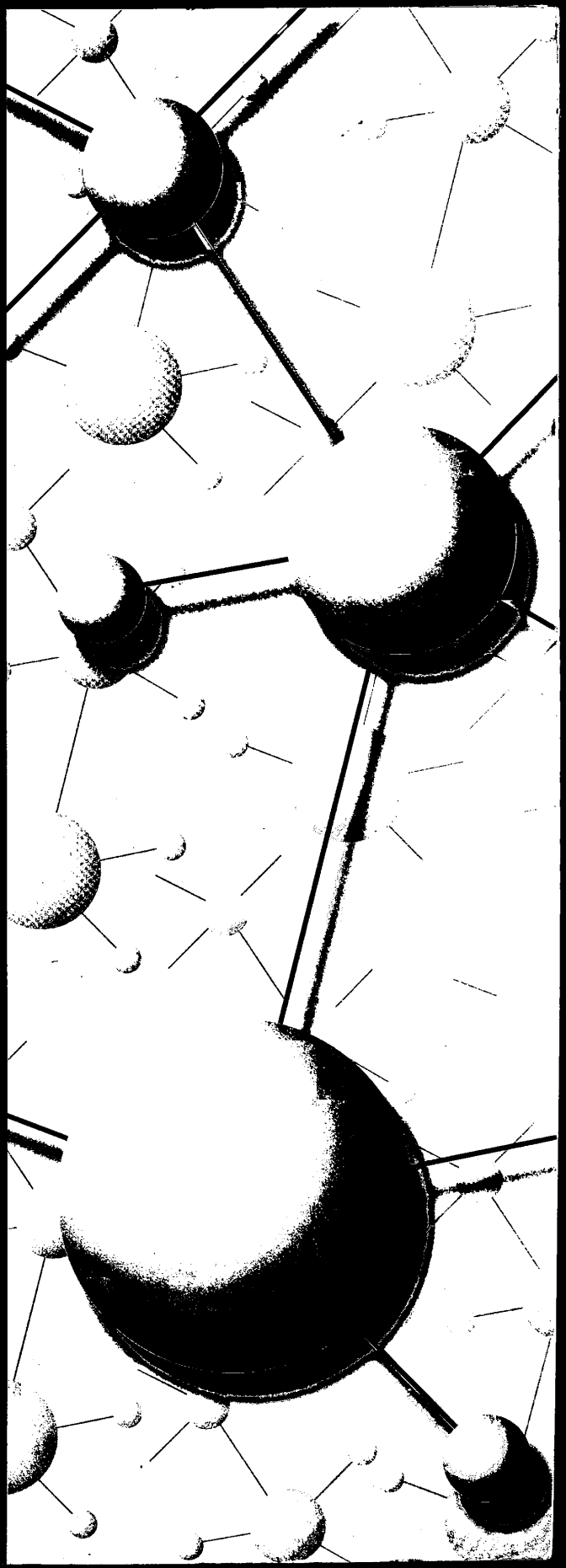

Hubs, Spokes and Policy Cycles

An analysis of the policy implications for the NHS of changes to medical staffing

A paper for the King's Fund London Commission

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Chris Ham
Judith Smith
John Temple

Summary

This paper examines four major policy developments which are forcing changes in medical staffing arrangements and also in the reconfiguration of clinical services within and between hospitals. These developments are the primary care-led NHS, the New Deal on junior doctors' hours, the Calman Report on specialist medical training and the Calman-Hine Report on the organisation and delivery of cancer services. On the basis of our analysis, the following key messages emerge:

- Developments in workforce and training policy are forcing significant changes to the working lives of senior hospital doctors. Consultants are experiencing new patterns of working, including a greater involvement in out-of-hours and direct clinical work. The consultant 'firm' is giving way to larger teams of consultants. These teams provide training for junior doctors and also fulfil the workload and specialty requirements called for as part of Calman-Hine implementation.

- Junior doctors are working shorter hours but often on a more intensive basis. They are required to develop more structured 'handover' between shifts to assure continuity of care. Junior doctors are following structured training programmes based on objective performance criteria, backed up by formal mentorship, supervision and appraisal. This is leading to a new requirement for consultants to be trained how to train.

- Clinical specialties are being reconfigured into new relationships. General specialties are splitting into sub-specialties and many specialties are being linked together into networks organised around the concept of the 'patient journey'.

- Nurses and other staff are using the opportunities of changes in medical staffing to develop a significant range of new skills and competences. This requires training and resources.

- The medical royal colleges have a significant and powerful role in accrediting training and consultant posts and hence in determining the distribution of specialties within and between hospitals.

- Changes to medical staffing and training will affect the nature and distribution of hospitals in the future. Smaller hospitals may either become staffed entirely by specialists, staff-grade doctors and GPs or they will form alliances and networks with larger units. These hospitals may become part of integrated care organisations.

- There is a long-term trend towards more intensive use of hospital facilities with more patients being treated in fewer beds. This is being driven by developments in health care technology. This substitution of technologies, locations and staff is a particular challenge to the district general hospital (DGH). General hospitals are likely to increasingly become part of networks of total care, linked with regional centres and primary care-based services.

- The hub and spoke model offers a way of maintaining local access to services and ensuring the delivery of high quality care. This may involve collaboration between clinicians as a minimum but, more ambitiously, it could lead to the merging of management arrangements and ultimately a reduction in the number of NHS trusts. Different arrangements are likely to emerge in different parts of the country and trust mergers are only one option.

- A major test for the NHS is its ability to respond intelligently to these developments in an environment where the need for change is not well understood by the general public and where there is often opposition to proposed alterations to the use and configuration of hospitals.

The paper draws on HSMC's research into these issues, a review of the literature, and interviews with a small number of senior doctors, managers and others with an interest in this area.

Chapter 1

Introduction

The aim of this paper is to analyse the implications of recent changes to medical staffing for the provision of health services. The paper begins by identifying a number of drivers for change in the NHS and then focuses specifically on developments in medical staffing. This is followed by a review of policy on hospital services and an assessment of the NHS response. The conclusion draws out the main implications for hospitals and other health care providers. The paper was prepared as a contribution to the work of the King's Fund London Commission.

The drivers of change

Health policy analysts have identified a number of drivers of change in the NHS today. Some, such as the ageing population, advances in health care technology, and rising public expectations, have been discussed and reviewed at length. There is a wide measure of agreement that developments in each of these fields will add to the pressures under which the NHS is operating, although it remains a matter of dispute whether these pressures can still be absorbed within the level of funding that has been announced by the Government. What does seem clear is that the way in which services are provided will change, particularly as a consequence of new technologies coming on stream. The effects will be felt at all levels within the NHS but will impact particularly on acute hospitals whose role has already changed significantly. This is likely to lead to further reductions in the number of hospitals and beds as more care is delivered at home and in the community.

Other drivers of change will also affect the role of hospitals. In particular, developments in medical staffing and training could, over time, fundamentally reshape the relationship between hospitals on the one hand and between hospitals and related health care providers on the other. The changes arising from the New Deal on junior doctors' hours[1] and the Calman report on specialist medical training[2] are already forcing doctors and managers to reappraise the current organisation of hospitals and the configuration of services. Although change so far has been relatively slow, in the longer term the implications are potentially quite radical. Coupled with other policy developments, most notably the move towards a primary care-led NHS[3] and the Calman-Hine proposals on cancer services,[4] major questions arise about the role of district general hospitals in particular and their relationship both with regional centres and with community hospitals and the providers of primary care.

To anticipate our conclusions, it seems likely that in future there will have to be increased co-operation between hospitals if high standards of patient care are to be maintained. At the same time, more emphasis will almost certainly be placed on collaboration between hospitals and other health care providers, especially those involved in the delivery of primary and community services. Put another way, health care delivery will exhibit features of both *horizontal* and *vertical* integration as purchasers and providers seek to balance the need to contain costs, ensure high standards, and maintain access to services for people living in different communities. As the policy emphasis on competition gives way to a renewed interest in collaboration, the circumstances seem (for once) propitious to bringing about a pattern of service provision appropriate to the needs of the next millennium. This includes exploring further the development of hub and spoke models of care in which hospitals work in collaboration with each other and with non-hospital providers.

There are, however, a number of drivers of change which are working in the opposite direction. As we discuss below, local hospitals are often held in great affection by local people and by the staff working in them. These challenges are accentuated by the gulf in understanding which exists between experts and researchers on the one hand and the public on the other. To achieve necessary change will require a significant investment in education and communication as well as ingenuity in finding new ways of working which overcome resistance to change. To explore these issues further we begin by outlining the background to the less familiar drivers of change (the New Deal,[1] the Calman Report on specialist medical training,[2] the Calman-Hine cancer services report)[4] as well as the policy on a primary care-led NHS.[3]

The primary care-led NHS

The concept of a 'primary care-led NHS' was first outlined in the NHS Executive guidance *Developing NHS purchasing and GP fundholding*.[3] The focus was on involving the GP and the primary care team in health commissioning and although the preferred vehicle for this involvement was, in 1994, GP fundholding, there has been a gradual move 'beyond fundholding' as commentators have observed the development of a '*wealth of innovation and of emerging new roles and organisations* [in primary care]'.[5]

Exhorted to move towards a primary care-led NHS,[6] health authorities and primary care purchasers have sought to focus the development of service provision in a primary and community care setting rather than in hospital. Tangible examples of this shift include the development of consultant outreach clinics in general practice premises; the move into primary care of chronic disease management activities such as anti-coagulant monitoring, diabetes care and asthma care; the 'rediscovery' of the community hospital

as a setting for convalescent and continuing care; and the development of a range of 'direct access' services whereby GPs can access hospital diagnostic services and even surgical waiting and booking lists without having to submit to the 'screen' of a consultant opinion.

In addition to exerting new degrees of influence as a result of their role as purchasers of health services, GPs and their primary care team colleagues are developing new patterns of service provision, often as a means of forcing change to the configuration of services in acute hospitals. For example, the Bromsgrove Total Purchasing Project has reduced length of stay for fractured neck of femur by the active use of care protocols, regular daily case review of total purchasing project patients by the project's clinical nurse manager, and the purchasing of services such as GP-managed community hospital beds and intensive home nursing services. This move towards new patterns of provision in primary care is likely to gain further momentum as the new NHS White Paper with its focus on the further development of primary care commissioning[7] is implemented.

The New Deal on junior doctors' hours

In the late 1980s and early 1990s, there was rising public, political and NHS managerial concern about the long hours being worked by junior doctors and the resulting effects on junior doctors, their colleagues, and the services provided to patients. The New Deal on junior doctors' hours was introduced as a requirement on all NHS trusts with effect from 1 January 1995 having been initially communicated to trusts in executive guidance in 1991.[1]

Under the New Deal, trusts have to ensure that working patterns for all junior doctors are such that no doctor is actually working for more than an average of 56 hours per week. The only exception to this requirement is the 'English clause', within which higher trainees who are deemed to be 'non-hard-pressed' are able, upon special request, to work up to an average of 83 hours per week. Various rota and shift patterns are possible within the New Deal, with a ceiling of 72 contracted hours per week for the least intensive clinical areas. Regional health authorities appointed task forces to oversee the implementation of the New Deal and to provide advice and support to trusts. These task forces were allocated top-sliced resources to support implementation and this funding has been used for purposes such as consultant and staff grade medical posts, skill-mix changes such as training of nurse practitioners and support workers, and improvements to doctors' residences and canteen facilities.

The target date for full implementation of the New Deal was 31 December 1996. The Department of Health did, however, support a further year of work by the task forces who were charged with working with those trusts still struggling to meet the requirements.

Task forces are now also required to introduce a system of accreditation for trusts satisfactorily meeting the requirements of the New Deal.[8] This accreditation and monitoring role has been handed over to new Local Medical Workforce Advisory Groups (LMWAGs) who will adopt a longer term role in looking at working hours and the medical staffing of trusts. As the *contracted* hours of junior doctors now, in almost all cases, meet New Deal requirements, the focus of the NHS Executive and task forces has moved to looking at the *weekly actual* hours of duty, the intensity of work during out-of-hours duty and the quality and adequacy of rest periods.

The Calman Report on specialist medical training

In 1992, the Department of Health's Working Group on Specialist Medical Training began its work, with the goal of improving the quality of higher specialist training and bringing UK higher medical training into line with European Community (EC) requirements for specialist training and recognition. The working group's activity led to the publication of *Hospital Doctors: Training for the Future,* the report of the working group on Specialist Medical Training (the Calman Report).[2] The Calman Report outlined a plan to introduce a new unified training grade (specialist registrar), drawing together the previous registrar and senior registrar grades into a 'higher specialist trainee grade'. The overall aim of the changes was outlined as follows:

> *'This new grade offers better, more structured training which in many cases will lead to the earlier completion of training ... the improvements introduced in this grade will have a profound effect not only on doctors currently in training but also on future generations of trainees.'*[9]

The changes in the Calman Report were designed to address the previous 'apprenticeship' model of medical training whereby junior doctors were expected to 'see one, do one, teach one'. There was a desire to move to the separation of service and training elements of junior doctor posts and the implementation of structured training programmes supported by identified time for consultant supervision, mentorship and appraisal. There had previously been little direct one-to-one supervision of junior doctors, with the focus being very much on 'learning by doing', and thus UK doctors took much longer to gain the experience necessary to obtain a specialist post, in comparison with colleagues in many European countries and the United States.

The new specialist training programmes emphasise shorter, more structured and organised training so that independent clinical competence as a consultant can be achieved much earlier than in the past in many disciplines. The intention of this change

is that there will be an expansion in consultant numbers in hospital practice which will support movement towards a more consultant-based delivery of patient care.[9]

The Calman-Hine Report on the organisation and delivery of cancer services

In May 1995, the Department of Health published *A Policy Framework for Commissioning Cancer Services* (the 'Calman-Hine Report),[4] setting out the recommendations of an Expert Advisory Group on Cancer (EAGC) brought together by Sir Kenneth Calman and Dame Deirdre Hine (the chief medical officers of England and Wales respectively). The group had been established as a result of anxiety among professionals, managers and users about a need to improve cancer services, and a general view that variability in clinical practice and services was unacceptable. An initial draft document was subject to widespread consultation and resulted in the publication of the 1995 report.

The Calman-Hine Report proposed three 'tiers' of cancer care, forming a co-ordinated network of care. The three tiers were set out as follows:

- **Primary and community-based services**, provided by the members of primary care teams and including health promotion, screening, initial diagnosis, referral for diagnosis and treatment, support for patients and their carers, co-ordination and delivery of palliative care, terminal and bereavement services.
- **Cancer units** based in district general hospitals, having specialist multidisciplinary teams with the expertise to manage the more common cancers such as breast, lung and bowel. Units are expected to deliver disease-specific care equal to that provided in cancer centres and *not* to be in any way second class units. Cancer units will be attached to cancer centres and will provide care according to protocols agreed with the cancer centre to which they relate.
- **Cancer centres** based in large hospitals and providing more high-technology facilities which will be needed by some patients. Cancer centres are expected to provide centralised and specialised expertise in the management and treatment of the majority of cancers.

The report emphasises the need for clear links, based on protocols, between the different tiers of cancer care. The focus is on networks of people rather than on buildings, with the aim of delivering high quality, co-ordinated care. The report also sets out seven principles to underpin the provision of cancer services, including the importance of cancer centres being patient-centred, providing access to a good primary care team, and appropriate information, support and assistance.

The recommendations of the Calman-Hine Report are being implemented on a regional basis, with regional teams leading a process of accreditation of teams and trusts within the three-tiered approach outlined above. For individual clinicians and teams to receive 'Calman-Hine accreditation', regional office cancer teams and local purchasers are seeking assurance that sufficient numbers of cancer procedures are carried out by the individual clinician or trust. This is leading to significant shifts of cancer work between clinicians and between hospitals, particularly in the surgical specialties. For example, in general surgery, consultants are being designated as breast surgeons, colo-rectal surgeons, and vascular surgeons, in contrast to their former designation as 'general surgeons'.

The role of the medical royal colleges

Related to these developments but significant in its own right is the role of the royal colleges in approving training posts and making recommendations on specialist staffing, workloads and models of service provision. In particular, the ability of the colleges to give and withhold training approval has a major bearing on the ability of hospitals to maintain adequate levels of staffing and service provision. If approval is withdrawn, for example because a hospital is deemed not to have a sufficiently varied caseload to provide experience for doctors in training, or because specialist staffing is inadequate for training purposes, then the hospital concerned will be unable to continue to provide services using doctors in training grades. It will then be forced to consider alternatives, including reliance on staff grade doctors, the use of GPs where appropriate, the greater use of non-medical staff, and links with other hospitals which have received recognition for training.

The influence of the colleges extends well beyond approval of training and specialist posts. It is increasingly concerned with establishing national minimum standards of service provision which can guide local implementation. In a number of cases, the colleges have used their position to recommend how services should be organised. Recent examples include reports from the Royal College of Physicians on the provision of general medicine in hospitals [10] and from the Royal College of Surgeons on the provision of emergency surgical services.[11] The latter is particularly relevant to this paper in proposing that emergency surgical services should be organised for a population of 450,000 to 500,000 to enable services to be consultant based, to offer optimum experience for surgical trainees, and to provide the standard of care deemed by the college to be appropriate. Although lacking statutory force, recommendations of this kind emanating from respected professional bodies do carry weight. And while questions have been raised about the evidence base of college reports,[12] there is little doubt that they are influencing NHS planning at a local level.

Chapter 2

The impact on hospital staffing

The policy developments detailed in Chapter 1 are leading to radical changes to the nature and configuration of hospital medical staffing in the UK. In addition to significant changes for senior and junior medical staff, other clinical and support colleagues are experiencing a range of developments which can be traced back to the implementation of the New Deal and the two 'Calman' reports. In this section, the impact on these different groups is considered, as well as the implications for the setting in which care is delivered.

The impact on consultant staff

As part of the implementation of the New Deal on junior doctors' hours, there has been a considerable increase in the number of consultant medical staff. In the *Summary of Task Force Reports and Returns,*[13] the NHS Executive reported that over the period 1991–1996, a total of 1156 new consultant posts had been established by New Deal task forces. In addition, many health authorities have funded new consultant posts in order to support local trusts in meeting the requirements of the New Deal. When approving new consultant posts as part of the implementation of the New Deal, task forces sought details of new junior and senior medical staff rotas and shifts as well as proof that the new consultant posts would directly contribute hours of medical time which in turn would reduce hours worked by junior doctors. As a result, many consultants have found themselves working in ways rather different from those traditionally associated with hospital specialists.

A typical new arrangement as part of New Deal implementation is for each consultant in a specialty team to take it in turns spending a week doing front-line clinical work, for example, screening new admissions, carrying out emergency procedures and surgery, and attending to calls from wards. To do this, the consultant cancels all regular commitments such as outpatient clinics and elective surgical lists, and thus is available to provide medical care previously the preserve of registrars or SHOs. The consultant is also able to provide direct supervision to trainee doctors, fulfilling the requirements of a 'Calman' model of medical training. For some consultants, this involvement in day-to-day direct patient care is perceived as a step backwards to their days as a junior doctor.[14,15] In particular, in cases where consultants are now required to take part in resident on-call arrangements, specialists often feel that this is not what they had expected of a consultant role and are concerned about their ability to work in this manner as they reach middle age.

These changes to the role of the consultant bring potential benefits for patients and for junior doctors. A more consistent presence of specialist medical staff in clinical areas on a 24-hour basis cannot fail to provide an improved service for patients and a greater degree of supervision and immediate support for junior doctors and nursing staff. A consultant-*led* service is therefore likely to give way to a consultant-*based* service.

New arrangements for different patterns of consultant working will need sensitive implementation, with assurance about appropriate facilities and time off, in order that the need for one New Deal does not lead to the need for a New Deal for another group of medical staff. There is a view that as a result of New Deal and Calman specialist training implementation there will be a move towards a situation where there are two broad groupings of specialist medical staff – younger specialists who carry out a greater proportion of 24-hour care and direct supervision of junior staff, and older more experienced specialists who have more of a management and truly 'consultant' role of leading clinical teams within trusts.

The planning of the medical workforce will in future need to be integrated with the business planning processes of individual trusts and health authorities. The implications of the New Deal, Calman and Calman-Hine are such that it will no longer be possible to plan the medical workforce in isolation. There will be a myriad of new configurations and networks of professionals and services, often crossing the boundaries of hospitals and trusts, and there will be an important role for regional offices in drawing together workforce planning, working closely with postgraduate deans.

The impact on junior doctors

For junior doctors, the implementation of the New Deal and the Calman Report has led to working patterns which are often radically different from those experienced by their predecessors. A move to shift rather than rota working has led to new challenges, such as having to work more intensively, albeit for shorter periods of time. In addition, rather than working through one weekend in four or five, junior doctors may now be expected to work one shift every two weekends.

With shift working, junior doctors, like their nursing colleagues, are becoming increasingly aware of the need for structured 'handover' of patients between shifts. In the past a small firm of junior doctors worked together closely and communicated directly about the patients in their care, but the new working arrangements mean that dedicated time is needed for an exchange of information about newly admitted patients and changes to the care of existing patients. Such a structured handover brings into question the issue of medical and nursing records and calls are now being made for the integration of the two

sets of patient records, in order to facilitate handover and communication between nursing and medical staff.

As the recommendations of the Calman Report are implemented, so junior doctors increasingly find that trusts are protecting time for junior staff to receive training as part of formal structured training programmes. Typically, these sessions take place away from ward areas. In some cases, junior doctors' bleeps are held by consultant colleagues while the juniors attend training sessions, a further signal of the changing roles of medical staff. Structured training within the new Calman framework is supported by formal mentorship and appraisal, and consultant staff are in many cases themselves receiving training in how to teach juniors, carry out appraisals and perform mentorship. For juniors, there is a formal training programme based on a series of clear objectives and with a transparent set of criteria against which performance will be measured, a far cry from previous informal approaches to the giving of references and the signing-off of 'apprenticeships'.

An inevitable consequence of these changes to the roles of both senior and junior medical staff is that relationships between the two groups is also changing. The consultant 'firm', the backbone of the NHS hospital medical staffing structure since 1948, is rapidly becoming extinct. In order to staff New Deal shifts and provide consultant supervision to junior doctors working under Calman training conditions, there is a necessity for consultants to group together in teams. To provide an adequate base for shift working, consultants now typically form 'teams' within a specialty, and share the junior staff between them, rather than the 'firm' system where each consultant had his or her 'own' junior doctors.

This move towards team working has wider implications. Consultants are unlikely now to have their 'own' beds on a ward and nursing staff are having to accustom themselves to relating to a wider team of doctors for a clinical specialty. This in turn may challenge the working practices of individual consultants: junior doctors working in a single team are unlikely to accept several different approaches to the care of a single clinical condition, and may stimulate a degree of peer review and rationalisation of practices within specialties.

The impact on non-medical staff

Changes to patterns of hospital medical staffing and teams have also affected the roles and working lives of nurses, paramedics and other support staff (Dowling, Barrett and West, 1995;[16] Moore *et al.*, 1994).[17] As part of the implementation of the New Deal, many trusts have used nursing hours to fill some of the hours of medical care left vacant

as a result of new medical shifts. To achieve this, trusts have typically developed new protocols for extended nursing roles, drawing upon the provisions of the *Scope of Professional Practice*[18] and resulting in new tasks being carried out by nurses, including the administration of first-dose antibiotics, venepuncture, intravenous cannulation, verification of expected death, and male catheterisation. In some trusts, nurses now carry bleeps at night and provide the first-line triage of night calls which would previously have gone to junior doctors.

Resources have been provided for training advanced nurse practitioners to complement the changes in medical staffing. There is also a need for resources for training ward staff in new extended roles and for providing additional nursing assistant time to 'backfill' nursing time being spent on new, formerly medical, tasks. In some cases, tasks previously carried out by junior doctors have been assumed by staff other than nurses, for example, porters (carrying specimens to and from laboratories, pushing beds and trolleys), ward clerks (sorting out forms for coding, compiling sets of medical records) or phlebotomists (taking blood).

New relationships between specialties

As well as changes to individual professional roles, there have also been implications for the relationships between clinical specialties. The Calman-Hine Report in particular has forced groups of specialties to work together in new ways, with a service such as head and neck cancer drawing together ENT surgery, clinical oncology, radiotherapy, MRI imaging and plastic surgery into a common set of protocols for a single clinical team. The focus is increasingly on groups of professionals being organised around a 'patient journey' or care pathway (the linear progress of a patient through a series of treatments for a single illness) rather than services being organised on strictly departmental lines to suit the needs of professional staff.

This interdependence of specialties may also have an impact on the clinical viability of smaller hospitals. Medical staffing problems in one specialty, for example, anaesthetics, lead to immediate difficulties in sustaining other acute specialties such as general surgery, obstetrics and paediatrics. The removal of a single specialty can therefore result in a 'domino' effect of the collapse of other services. This underlines the significant role of the medical royal colleges in accrediting training posts and consultant job descriptions. Failure to receive college accreditation may accelerate the transfer of a clinical specialty to another site, the merging of clinical departments, or even the change in the overall configuration of hospital services (see the case study of Rugby in Chapter 4 and Appendix 1).

Within a single clinical specialty, such as general surgery, the Calman-Hine and New Deal changes are forcing a trend towards sub-specialisation, whereby consultants will specialise in areas such as breast surgery, colo-rectal surgery, or thoracic surgery. This necessitates consultants giving up areas of work where they are deemed not to carry out sufficient procedures to attract Calman-Hine accreditation, and to focus instead on a particular area of surgery. This raises important issues about who does the 'general' areas of general surgery (e.g. hernias, vasectomies, removal of 'lumps and bumps'). Similar issues arise in the case of general medicine where the move to sub-specialisation may threaten the role of the general physician.[10] Against this, the incentives contained in private practice may slow down the move to further specialisation, as consultants establish the ways in which this aspect of their work will be organised and divided between different specialists in an area.

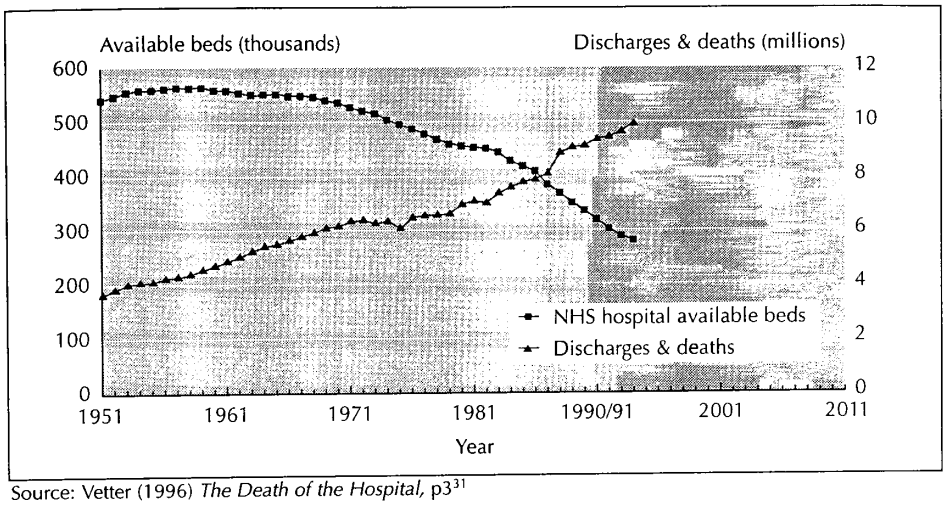
Chapter 3

The impact on hospitals

The pattern of hospital provision in the UK today derives in part from history (some of it quite ancient) and in part from government policy. As far as the latter is concerned, the Hospital Plan of 1962[19] set out a blueprint for the future of hospital services centred on the establishment of a network of district general hospitals in England. The Hospital Plan formed the basis of capital investment decisions in the 1960s and early 1970s and led to the renewal of much hospital capacity. The aim of the Hospital Plan was to ensure that hospital services were centred on district general hospitals (DGHs) serving populations of around 100,000 to 150,000. These were to be supported by small hospitals in rural areas and specialised centres providing services that did not need to be available in every district. Although modified by subsequent guidance, the idea of three levels of hospital care contained within the Hospital Plan continued to influence thinking about hospital provision and helped to shape the nature and distribution of specialist services.

Implementation of the Hospital Plan occurred in parallel with changes in the role of hospitals brought about by developments in health care technology and other factors. Of particular importance in this context was the use of technologies that enabled more patients to be treated in fewer beds (see Figure 1). Innovations in surgical techniques, the use of drugs, and improved forms of anaesthesia resulted in reductions in average lengths of stay, the progressive introduction of day surgery, and the delivery of some services outside hospital. A number of these developments were facilitated by the strengthening of primary care which took place following the Doctors' Charter of 1965.[20] The services affected included not only the 'acute' specialties provided within DGHs but also services for the elderly and for people with mental illness and learning difficulties. Increasingly hospitals came to be seen as one element in a spectrum of services with other forms of provision becoming more important as the role of hospitals themselves changed.

Government policy lagged behind these developments and there was no attempt to update the Hospital Plan to take account of changing circumstances. Indeed, as Harrison and Prentice[21] note, *'there remains a policy vacuum at national level'* (p.11), notwithstanding the quite different environment in which health care is now delivered. Into this policy vacuum have stepped independent analysts and researchers who have attempted to analyse recent trends and to extrapolate from these into the future. Many of these analysts draw on the work of Banta whose research into emerging health care



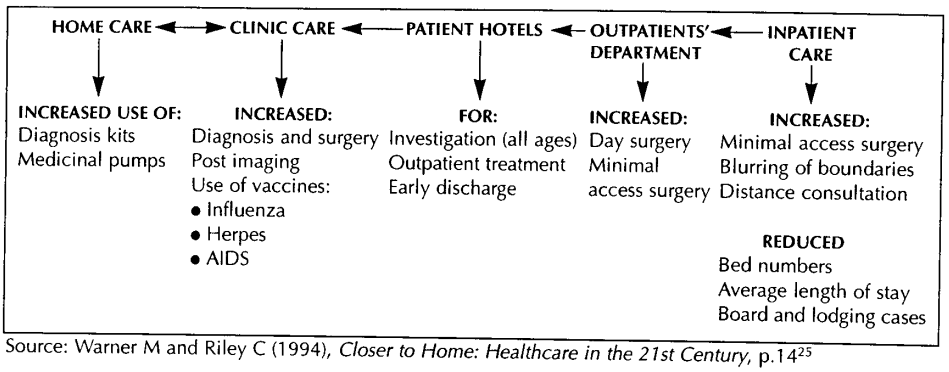
Source: Vetter (1996) *The Death of the Hospital*, p3[31]

Figure 1 Available beds and discharges and deaths

technologies has influenced much of the thinking in this area[22] Stocking's analysis for the first King's Fund London Commission is an example, suggesting that developments in technology are leading to more care being delivered away from hospital.[23] In parallel, some services require highly specialised facilities and therefore a greater degree of centralisation than has been the case in the past.

The logic of these sorts of developments was analysed in a report to the Oxford Regional Health Authority in 1992 which envisaged a future in which more services were delivered in primary care and hospitals were organised to provide services either to populations of 500,000 to 800,000 or to populations of 50,000 to 150,000.[24] The former were designated as major hospitals providing the full range of specialist care; the latter were designated as local hospitals providing a minor injuries service, outpatient and elective work, diagnostic facilities, low-risk maternity services and nursing beds as an extension of primary care.

Thinking on the future pattern of health care has been brought together by Warner and Riley[25] in work for the Welsh Health Planning Forum which focuses on the scope for substitution of technologies, locations in which services are provided, and staff. Their arguments on future technology and substitution are illustrated in Figure 2. What this suggests is that developments in minimally invasive surgery, telemedicine and diagnosis will tend to shift care to non-hospital settings such as patient hotels and people's own homes.



Source: Warner M and Riley C (1994), *Closer to Home: Healthcare in the 21st Century*, p.14[25]

Figure 2 Future technology and substitution

This is elaborated in Figure 3 which identifies a number of shifts in locations likely to occur as a consequence of changes in technology. As Warner and Riley argue, the implication of these shifts is potentially most profound for the district general hospital. They postulate that:

> *'In the future, the DGH might become a highly specialised unit, treating as inpatients only those who are very sick, people with day care surgery needs which demand a specialist response, and emergency cases. This might bring major bed reductions down to a total size of no more than 250 beds. Other cases will be looked after in small local or neighbourhood hospitals, serviced by consultants and general practitioners and providing for inpatient and day case surgery patients. Maternity care will be provided at both sites, but only high risk cases will go to the specialised obstetric unit. Many more births will occur at home.'* (p. 15)

The thrust of these predictions is echoed by Vetter[26] who highlights the role of new technology in enabling much routine hospital work to be done at home or in community settings. He argues that a number of specialties – for example, surgery, geriatric medicine and obstetrics – have already reduced their reliance on district general hospitals, while others, such as cardiac surgery, neurosurgery and radiotherapy, are increasingly provided at more specialist centres. The greater use in future of primary care teams will in Vetter's view accentuate these trends, as will the more widespread availability of hospital-at-home schemes and domiciliary care. Like Warner and Riley, Vetter envisages a future in which the number of hospitals and beds continues to decline and where DGHs are squeezed between pressures to regionalise some services and decentralise others. Vetter goes further than many other analysts to predict the eventual demise of community or local hospitals as the services they provide are delivered either at home or in nursing home facilities.

Shift of care from DGH settings to community settings

- shift in
  - paediatrics
  - psychiatry
  - dermatology
  - rheumatology
  - radiology
  - obstetrics
- development of hospital-at-home arrangements

Enhanced primary care

- more use of
  - practice nurses
  - social workers
  - psychologists
  - counsellors
  - physiotherapists
  - occupational therapists
- increased adoption of specialists interests at primary care level

Shift to home-based care

- increased expectations on families and other lay carers in caring for:
  - the elderly
  - convalescents

Shift from institutional to community settings

- shift in emphasis from medical orientation to social model
- shifts in
  - mental illness
  - mental handicap

Shift from secondary to tertiary

- concentration of complex work relating to
  - trauma
  - surgery
  - radiology
  - obstetrics

Shift within hospital

- from wards to outpatients/theatre
  - day surgery
  - minimal access surgery
- wards to patient hotel
  - tests
  - postnatal observation
  - observation

Source: Warner M and Riley C (1994) *Closer to Home: Healthcare in the 21st Century*, p.40[25]

Figure 3 Shifts in locations

Medical staffing

Developments in medical staffing are identified in a number of studies as having an important bearing on the future configuration of services. This was emphasised in the Oxford study on hospital services for the twenty-first century which noted the likelihood of an expansion of consultant and non-consultant staff grades and the organisation of medical staff into teams sufficiently large to enable balanced coverage of elective and emergency work for both inpatients and outpatients.[24] The formation of these teams was dependent both on an adequate supply of trained doctors and on the concentration of services on fewer major sites. As the study noted:

> *'For the major acute specialties, we could be thinking of teams comprised of 8 to 10 consultants, 4 to 6 non-consultant career grade staff and 3 or 4 trainees. Teams for specialties with relatively little emergency work could be smaller'.* (p.10)

It was envisaged that nurses and other staff would take on additional responsibilities within these arrangements *'working to protocols with requirements for exception reporting'* (p.11). Furthermore, medical staffing at local hospitals would be centred on GPs, again with the support of nurses, with specialist input coming from the major parent hospital.

Changes such as those implied by the Calman Report on specialist training are likely to have a significant cost, both in terms of the direct costs of training programmes, and more importantly, the opportunity costs of 'lost' service delivery time. A report prepared for the regional director of Anglia and Oxford Region[27] reached the following conclusion:

> *'We estimate that there will be region-wide costs in the next five years of about £20 million recurringly in order to maintain existing service levels while introducing the changes in training.'*

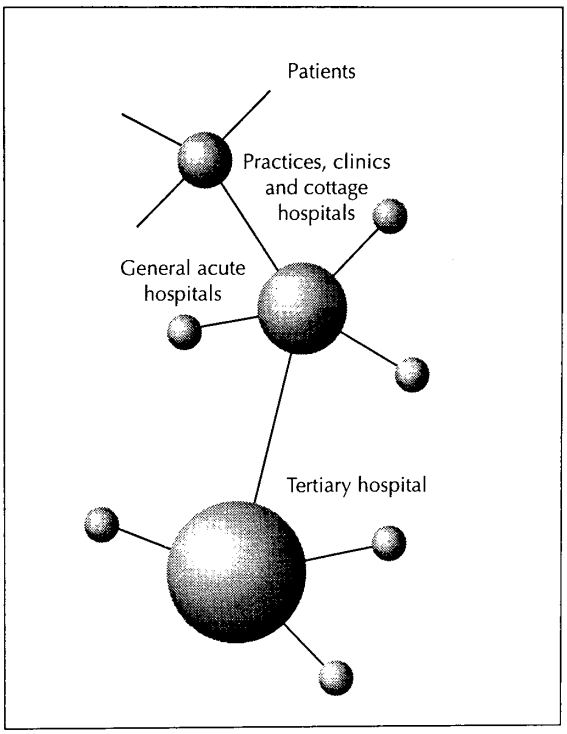
The importance of these arguments is also recognised by Harrison and Prentice.[21] They link the changes in specialist training to the reduction in junior doctors' hours to suggest that new staffing patterns for hospital services and complementary community-based services *'can and must emerge'* (p.139). Specifically, there will be stronger pressures towards a greater concentration of skills to ensure that enough time is available both for the training of medical staff and to provide round-the-clock cover. This is likely to lead to the emergence of fewer larger units alongside arrangements in which smaller hospitals work in alliance with larger hospitals to ensure the availability of necessary expertise and to facilitate the complementary development of services. The latter is sometimes referred to as the 'hub and spoke' model. One interpretation of this model is illustrated in Figure 4.

Integration

If integration does receive more attention in future, then the relationship between hospitals and other forms of health care are of particular importance. This point is emphasised by Robinson[28] who detects similar trends affecting hospitals in the US but who notes the diversification of hospitals into day surgery centres, home health and nursing home facilities. This opens up the possibility that:

> *'The delivery system of the 21st century might remain centred around the hospital, albeit in a vertically integrated system where acute care beds play only a modest role.'* (p. 259)

In this scenario, hospitals may reinvent themselves as integrated care organisations and may seek to ensure their survival by responding to developments in health care technology and by anticipating these developments. An alternative possibility is that non-hospital providers, in particular managed care organisations, may expand their role and buy in hospital services on a contractual basis. In later work, Robinson and Cassalino[29]



Source: Harrison A,'Tomorrow's Hospital' in *Opinion,* Issue 1, Autumn 1996, p. 10[30]

Figure 4 'Hub and spoke' care

have described the emergence of vertical integration and virtual integration as hospitals and managed care organisations recognise the need to establish collaborative relationships in an increasingly competitive market place. In some cases integration is led by hospitals, in others by managed care organisations. The point to emphasise from these analyses is that the boundaries of the hospital are shifting rapidly as the need for integration is recognised.

Uncertainty

In speculating about the future roles of hospitals there are of course many uncertainties. There is therefore a need for caution in extrapolating from past trends. This is well illustrated by Vetter's observation that the last hospital bed will disappear in 2012 at the same time as 14 million cases are treated in it![31] Not least, the growing pressures of emergency hospital admissions coupled with lengthening waiting times for non-emergency care suggest that the demand for hospital services will continue to exercise the ingenuity of policy makers and clinicians alike. The need for caution is underscored by evidence which suggests that larger hospitals treating higher volumes of patients do not necessarily produce better outcomes nor do they result in economies of scale.[13] While advances in technology and changes in medical training and staffing may

be leading in the direction of increased concentration and specialisation of certain services, the counter arguments have to be acknowledged.

These arguments have been rehearsed by the Royal College of Physicians[10] in an analysis of future patterns of care by general and specialist physicians. In its report, the College argues the need for medical services to be provided in general hospitals serving populations of 200,000 to 300,000. The report acknowledges that highly specialised services will be provided at centres serving populations of a million or more and that smaller community facilities might support the work of general hospitals. Furthermore, large cities could be served by hospitals providing both secondary and tertiary care. Within these arrangements, physicians will work in teams comprising a number of doctors and other health care workers, and alternative options are identified for balancing the contributions of specialists and generalists.

It may be too soon to write the obituary of the DGH. Indeed, rather than framing the discussion in terms of polar opposites – general hospitals versus specialist centres, hospital care versus primary care – it is more helpful, to return to an earlier point, to think about the contribution of different providers to the spectrum of care that patients need. Furthermore, in view of differences in geography and inherited patterns of service provision, there is unlikely to be a blueprint that will apply to the NHS as a whole. What does seem likely is that a more co-operative or integrated approach will be needed in future. This could involve co-operation between clinicians in different settings (such as between GPs and specialists and between doctors working in different hospitals), the integration of management arrangements (for example, the appointment of single management teams, the establishment of further combined acute/community trusts, or trust mergers) or both. Horizontal and vertical integration is likely to take many forms as clinicians, managers and policy makers respond to current challenges. The way in which this happens is uncertain but an indication of the shape of things to come can be gleaned from recent developments.

Chapter 4

The NHS response

In recent years the configuration of hospitals in general and acute services in particular has come under review in many parts of the country. The experience of London following the Tomlinson Inquiry has been widely reported but other cities have undertaken similar reviews, as indeed have health authorities in shire counties. The development of these reviews and their impact on hospitals and other health care providers has been tracked in a series of reports published by the IHSM.[32] As these reports demonstrate, the time taken to analyse the issues involved in the configuration of acute services is often longer than anticipated. Furthermore, there may be both public and professional resistance to proposals which entail radical changes in the use of hospitals. In many cases this has meant either no alteration to the existing pattern of service provision or limited change. Notwithstanding efforts on the part of health authorities to consult widely on their plans, involve key stakeholders, and explain why change is considered to be necessary, it has proved difficult to win support for major alterations to established patterns of service provision.

Developments in the last two years suggest, however, that this may be changing. In Birmingham, for example, the merger of Heartlands and Solihull Hospitals under a single trust board following financial difficulties at the latter, demonstrates how, in the case of a crisis, resistance to change can be overcome if there is a clear focus and a determination to change. In this particular case, a financial deficit of £7.8 million has been largely resolved by reducing management costs and rationalising the duplicated service departments.

Equally important has been a recognition that the quality of care may improve if clinical services are rationalised. This was also a factor in the Heartlands/Solihull case where the removal of training recognition for paediatrics forced the closure of inpatient services and a review of the viability of related services such as obstetrics and gynaecology. This in turn could have undermined the whole clinical infrastructure of the hospital, with further consequential effects on the financial stability of the hospital. The merger enabled appropriate services to be maintained at Solihull while others, such as all general surgical emergencies, were transferred to Heartlands. In addition, medical staffing at Solihull was strengthened through the use of specialists from Heartlands to deliver new services, such as ophthalmology and renal dialysis outpatients, on the Solihull site.

A similar though less radical solution was pursued in Worcestershire, where the threatened loss of training recognition in paediatrics at Kidderminster General Hospital led to the creation of a single paediatric service for Kidderminster and Worcester, involving a team of specialists providing services in both towns. Services now include a day care centre at Kidderminster, a hospital-at-home nursing service, outpatients at both sites and the concentration of acute inpatient paediatrics in Worcester. Kidderminster has also reconfigured obstetric services in the light of pressures brought on by New Deal and Calman requirements. Worcester and Kidderminster now have a partnership to deliver obstetric services for Kidderminster women. A midwifery-led service at Kidderminster is offered for women with anticipated normal childbirth, and those women who need a consultant obstetrician are admitted to Worcester. This reinforces the point made earlier that trust and hospital mergers are only one way of bringing about service change.

The importance of quality is also illustrated by developments in accident and emergency services which are leading in some parts of the country to the emergence of specialist trauma centres. Although the evidence on the effectiveness of such centres is contested, the move to close smaller casualty departments appears to be gathering pace. In some cases this involves retaining a minor injuries facility at one hospital while services are concentrated at another. Part of the rationale for this is that accident and emergency departments require a minimum volume of activity and specialist support to deliver high quality care. A related argument is that such departments need round-the-clock consultant cover and this can only be provided if services are concentrated in fewer, larger centres.

A more general point follows, namely that hospitals will have to change their way of working to accommodate new approaches to medical training and to sub-specialisation. Smaller hospitals will find it difficult to maintain the services they have traditionally provided and segmentation is likely to occur because some hospitals are able to offer a high standard of care and a wider range of specialties than others. As the IHSM's most recent review[32] of acute service reconfiguration has noted:

> *'There was increasingly widespread acknowledgement that small specialties provided on several sites would have to be consolidated in order to generate a "critical mass" of clinical activity, primarily to ensure that clinical competence and skills are maintained and that training requirements are met.'* (p.6)

The review continued:

> *'The logical strategic solution is increasingly recognised as a rationalisation and reconfiguration of A & E departments and other services, to ensure the availability of fully trained doctors delivering a genuinely specialist service, and thereby improving service co-ordination and quality. This will almost inevitably require a reduction in the number of sites offering specific services ...'* (pp. 12–13)

These findings are supported by the University of York's research into concentration and choice in the provision of hospital services which found that senior managers in health authorities and trusts perceived small hospitals and units to be under threat from the reduction in junior doctors' hours brought about by the New Deal and the reforms of specialist training stemming from the Calman report.[12]

The surveys carried out by the IHSM[32] illustrate that one approach to these issues which is receiving increasing attention is the hub and spoke model. In part, this is being used to strengthen the links between tertiary and secondary care providers, thereby making more widely available the expertise available at centres of excellence. Seen in this way, the hub might provide a range of inpatient services (both high technology and low technology) and 24-hour emergency services. The spoke would concentrate on outpatient services, day cases, elective work and minor injuries. A hospital that took the form of the hub for some services might become a spoke for others. For example, Worcester is the paediatric hub for South Worcestershire but is the spoke to the cardio-thoracic surgical services provided in Birmingham. The hub and spoke model is also a way of linking secondary care providers to ensure adequate medical cover and to enable staff training to be undertaken appropriately between hospitals and sites that on their own might struggle to remain viable.

Taken further still, the model offers a way of integrating primary and secondary care at a time when more and more responsibility for service provision is moving out of hospital and into the community. At a minimum, this entails the development of shared care protocols between GPs and specialists. More ambitiously, it involves the development of integrated services between hospitals and the newly emerging primary care organisations (as is being discussed in Berkshire, Leicestershire and Sheffield). And while many of these initiatives are being driven by entrepreneurial GPs, there is increasing interest on the part of those running trusts in making use of GPs to deliver care. Developments in the NHS therefore echo Robinson's analysis of what is happening in the US (see above)[28] lending support to the argument that the boundaries of the hospital are shifting as the importance of service and staffing integration are recognised.

As these comments suggest, changes in medical staffing brought about by the New Deal and the Calman specialist staffing policy are looming ever larger in local discussions of acute services configuration. Two examples which powerfully illustrate this point concern services in Rugby NHS Trust in Warwickshire and a range of providers in South West London (see boxes).

Rugby case study

In 1996/97, the Rugby NHS Trust provided general acute, community and mental health services to 110,000 people, had a revenue budget of £28.5 million and employed 1400 staff. Its main local purchasers were Warwickshire Health Authority and GP fundholding practices. Acute hospital services were provided at the Hospital of St Cross in Rugby, a 289-bed hospital where there had been significant capital investment in the early 1990s. There had always been strong local support for the hospital and its services and a 'Save St Cross Campaign' had thwarted attempts to 'review' the hospital in 1994, this being perceived by local people and hospital staff as threatened hospital closure.

During the early 1990s, Rugby began to feel the effects of three key NHS policy developments. The New Deal on junior doctors' hours led to the loss of training recognition of some posts, and the trust resorted to the use of locum consultants and staff grade doctors to fill the gaps in rotas. The publication of the Calman Report presented a second challenge and the trust had further difficulties in achieving recognition of junior and consultant posts. The publication of the Calman-Hine report on cancer services raised yet more concerns about the medical staffing and viability of St Cross as a provider of general acute services. From the perspective of the health authority, the regional office and local GPs, the pressure to reconfigure services became irresistible.

In 1996, the health authority proposed a merger of trusts in Warwickshire, with the aim of forming more clinically viable units while achieving management cost savings. At the same time, the trust had lost two of its 2.5 WTE general surgeons and clinical service viability was at the point of 'clinical meltdown'. The regional office initiated the formation of a project team to examine options for clinical service provision in Rugby. The project team appointed the former regional director of public health to provide external assistance and then asked all the relevant royal medical colleges, the regional postgraduate dean and expert nursing advisors to review the viability of services in Rugby and to advise on future options for service provision.

Reports were made within a tight timescale and were published in early 1997 along with the review team's analyses of medical staffing, contract portfolios and casemix. Key recommendations included a reconfiguration from an accident and emergency unit to a minor injuries unit, the transfer of paediatrics to a day and outpatient service only, and a move of acute inpatient surgery to Coventry. The chief executive of the Walsgrave Trust in Coventry was appointed acting chief executive of the Rugby Trust to manage the process of service integration and the trust merged with Walsgrave (acute services) and North Warwickshire (community and mental health services) in April 1998.

A more detailed account of the Rugby case is set out at Appendix 1.

The Tomlinson report[33] recommended a review of London's specialist services, and these reviews reported in June 1993. The reviews proposed a 'network' of specialty provision across the capital, based on specialist 'hubs' and 'spokes' responsible for routine care locally.[34] The King's Fund London Commission[34] noted: *'... it is now clear that the impetus to rationalise specialties largely faltered following publication of the reviews ... In effect [they] have been largely frustrated by institutions to which they posed a threat.'*

There is, however, evidence that some health authorities and trusts, reacting to clinical and financial viability issues, are now collaborating to develop structured local reviews and rationalisation of services. A powerful example of this is set out below.

South West London case study

In April 1996, Kingston and Richmond Health Authority, Merton, Sutton and Wandsworth Health Authority, Richmond, Twickenham and Roehampton NHS Trust (Queen Mary's University Hospital) and Kingston Hospital NHS Trust, agreed to work together to seek solutions to the pressures raised by the need to address new national medical training and staffing requirements. Services reconfigured were general surgery, trauma and orthopaedic surgery, paediatrics, gynaecology, and maternity services, and the recommended new service pattern was implemented in April 1997. The establishment of joint clinical departments between these hospitals was explained in a press release[35] as follows:

'It [the review] is founded on the principle, widely accepted in the debate over local services changes last year, that the quality of patient care is improved by allowing doctors to specialise and work as part of a larger team.'

Following implementation of these jointly managed services, other clinical departments at Queen Mary's and Kingston Hospitals brought forward proposals for mergers, including the departments of pathology and general medicine. To respond to this, Kingston and Richmond, and Merton, Sutton and Wandsworth Health Authorities took the step of setting up a collaborative review of local services, aiming for a vision of local health services for the year 2000. An independent chair was appointed to lead the review, and the steering group includes representatives of local GPs, the chief executives of the two health authorities and the four NHS trusts whose services are affected. A series of service and financial reviews took place during the summer of 1997, overseen by the executive steering committee, and liaising closely with local community health councils. Services examined were pathology, general medicine, care of older people, ENT, maxillo-facial surgery, elective surgery and mental health services. Some tertiary services, such as burns and plastic surgery were also reviewed separately. Hospital consultants and local GPs were heavily involved in the service reviews.

As well as the clinical and medical staffing drivers for change, there is a financial need for service reconfiguration. The review was supported in 1997/98 by a £6 million special transitional grant allocated by the previous Secretary of State, but the sum was non-recurrent and dependent upon satisfying the Secretary of State's requirement for *'... a clear recovery plan being in place which examines the strategic options and develops a clinically viable and affordable service configuration ...'*[36]

After full implementation of the review, it is anticipated that there will be an annual revenue saving of £9 million between the two health authorities. (The proposals were subject to formal public consultation until January 1998).

A more detailed account of the South West London case is set out at Appendix 2.

Chapter 5

Implications

The implications of the policy developments discussed in this paper can be summarised as follows. Hospitals in the future will rely more on specialists and less on junior doctors. The requirements of the New Deal and the changes to specialist training are of particular importance in this context. Junior doctors will spend more of their time being trained and less delivering services. The time in training will also fall. Additional specialist posts will be needed to fill the gap and to create time for specialists to undertake training of junior doctors. Patterns of work in hospital will alter as a consequence with specialists doing more work at night and weekends and forming teams to enable adequate cover to be provided. In parallel, the move to sub-specialisation will continue (as illustrated by the Calman-Hine developments) and there will be opportunities for nurses and other non-medical staff to take on more clinical responsibilities. There may also be a greater role for GPs in the provision of both hospital and non-hospital services.

These changes to NHS staffing have implications for the configuration of hospital and other services. The long-term trend towards the more intensive use of hospital beds will result in further reductions in the number of hospitals and beds. The opportunities created by advances in health care technology to substitute non-hospital for hospital provision will mean more services being delivered in the community. At the same time, some services are likely to be concentrated in larger specialist centres. While this is perceived by many analysts as posing a threat to the role of district general hospitals, it is premature to write off the contribution of these hospitals. Some may reduce their role or cease providing services but others are likely to survive, albeit in an altered state. In particular, as a result of changes in medical staffing, smaller hospitals may become staffed entirely by specialists, staff grade doctors and GPs, or they may form alliances with larger units.

The hub and spoke model is one way of maintaining local access to services and ensuring the delivery of high quality care. Different arrangements are likely to emerge in different parts of the country and trust mergers are only one option. Both horizontal integration between hospitals and vertical integration between hospitals and other providers will become more significant. This may involve whole hospitals or individual specialties and services. Integration may encompass clinicians, managers or both. Over time the number of trusts will fall but this will probably emerge from the developments currently taking place rather than driving them. The pace of change will be influenced by a variety of factors, among which the role of the royal colleges in providing training accreditation and the level of funding made available to the NHS are of particular importance.

It should be emphasised that there are many uncertainties associated with the future configuration of hospitals. The research evidence on the benefits of concentrating hospital services indicates that larger hospitals treating higher volumes of patients do not necessarily produce better outcomes nor do they result in economies of scale. Despite this, the pressures arising from the staffing changes discussed in this paper are perceived by managers and clinicians alike as forcing the pace of change, whatever the research evidence may indicate, as are related developments such as the primary care-led NHS and the Calman-Hine plans on cancer care. A further impetus to change is the likely application of the European Community directive on working hours to junior doctors. This will entail a requirement for doctors to work a maximum 48-hour week.[37] How this will be implemented in the NHS is yet to be determined.

In the light of this, the NHS faces a major test in responding intelligently in an environment in which the need for change is not well understood by the general public and where there is often opposition to proposed alterations to the use and configuration of hospitals. An essential component of any change strategy is therefore a thorough process of public consultation (perhaps including public hearings and the use of citizens' juries) to explain the issues involved and to win support for new models of care. Such a strategy also needs to incorporate the lessons that have emerged in Rugby, Heartlands/Solihull, Worcestershire, South West London and other districts which have experienced service reconfigurations. In particular, the medical profession as a whole has a major part to play in explaining, with managers, the need for change.

Key lessons from the experience of Rugby and of South West London can be summarised as follows:

- The importance of focusing on clinical safety and viability issues, rather than management and organisational structures and configuration.
- The need for regional office, postgraduate dean and local GP support for planned change.
- Medical consensus across trusts, specialties and primary/secondary care is a vital prerequisite to change.
- Early involvement of politicians, CHCs, and local representative groups fosters constructive debate and open public relations.

In the next cycle of policy development, therefore, there is a need to think carefully about the relationship between different hub-and-spoke health care providers and how their contributions can be co-ordinated to meet both the needs of patients and the requirement to educate future generations of health care professionals. Experience in the UK and elsewhere indicates that networked or integrated delivery systems are essential

to the fulfilment of these objectives. Yet as developments in London have demonstrated, it is one thing to articulate an aspiration to reconfigure or integrate services, quite another to achieve it in practice. Perhaps as the political urge to encourage independence among providers and to foster competition as a strategy of survival subsides, some of the hurdles to change can be overcome.

Appendix 1

The Rugby case study

The Rugby NHS Trust in Warwickshire was formed in 1991 as part of the 'first wave' of NHS trusts established as a result of the implementation of *Working for Patients.*[38] The Rugby NHS Trust incorporated all the services directly managed previously by the former Rugby Health Authority, including community, mental health and general acute services. The Rugby Health Authority covered the smallest population of all district health authorities in England and Wales, and the move to trust status was seen by many as an attempt to keep independent and self-supporting clinical services in Rugby and to resist the threat of 'takeover' by district health authorities.

The trust provided health care to a catchment population of 110,000 people covering Rugby and the surrounding villages, as well as parts of Leicestershire and Northamptonshire. The main purchaser of services was Warwickshire Health Authority and local GP fundholding practices. The trust's revenue budget in 1996/97 was £28.5 million and it employed 1400 staff.

Acute hospital services were provided at the Hospital of St Cross in Rugby, a 289-bed hospital covering a range of specialties. There had been significant capital investment in the hospital in the early 1990s, including a new X-ray department, an inpatient facility for care of the elderly, an inpatient and day care mental health unit and two-day hospitals. There had always been strong local support for the hospital and its services and a 'Save St Cross Campaign' had thwarted attempts by the health authority to 'review' the hospital in 1994, this being perceived by local people and hospital staff as threatened hospital closure.

In 1996, the chief executive of Warwickshire Health Authority prepared a paper for the authority proposing the merger of acute services trusts in the county, in order to form more clinically viable units while achieving economies of scale in relation to management costs. The health authority was keen to establish a clear sense of medical direction for the county's acute services and was committed to driving what it saw as inevitable and important change.

Following the adoption in 1991 of NHS trust status, Rugby began to feel the effects of three key NHS policy developments. First, there was the New Deal on junior doctors' hours. St Cross found itself losing recognition of training posts by the postgraduate dean

and the New Deal task force, and resorted to the use of locum consultant staff and staff grade doctors to 'plug the gaps' in rotas.

The publication of the Calman Report presented a second challenge, setting out a new way of training junior doctors. A hospital such as St Cross had little workforce flexibility for the implementation of new shift patterns to meet the requirements of the New Deal and it now encountered yet more difficulties in gaining recognition for junior doctors' training posts under the 'Calman' training and career framework.

The publication of the Calman-Hine report on cancer services in 1995 presented the third policy challenge. A requirement for accreditation of hospitals to be cancer units or cancer centres, being steered in the West Midlands by a proactive implementation team with the support of all purchasers, raised further concerns about the medical staffing and viability of St Cross as a provider of general acute services. The Calman-Hine report was seen by the health authority as 'a chance to shake up and revolutionise Rugby' and, from the perspective of the health authority, the regional office and local GPs, the pressure to reconfigure services became irresistible.

At the same time, the trust was facing the consequences of the departure of two of its 2.5 WTE general surgeons with no possibility of recruitment to replace these vacancies. Clinical service viability therefore became an immediate and pressing issue and the trust faced what was described as 'clinical meltdown'. It was noted that similar circumstances could have occurred in any number of specialties if key posts had fallen vacant.

In early 1997, following approval of the health authority paper about proposed trust mergers in Warwickshire, the regional office approached the chief executive of the Walsgrave Hospitals NHS Trust and asked him, in a personal capacity, to form a project team to examine future options for clinical service provision in Rugby. The resulting project team was made up of the chief executives of the Rugby, Walsgrave and North Warwickshire Community Services NHS Trusts.

At its meeting on 6 January 1997, the board of the Rugby NHS Trust reaffirmed its priority as being the provision of clinically safe and effective services for the local population and acknowledged the need to form 'strong partnerships' with neighbouring trusts that might lead to merger. At its February meeting, the Rugby trust board asked the regional office to chair a project team to review patterns for the provision of services.

The project team of chief executives appointed the former regional director of public health to provide external assistance and guidance to the review. With his assistance, they asked all the relevant royal medical colleges, the regional postgraduate dean and

expert nursing advisors to visit the Rugby NHS Trust, meet with staff and the project team and report on their findings.

College advisers were asked to consider three aspects:

- Whether any clinical services were immediately unviable and the joint action necessary to provide a clinically viable service to Rugby's residents.
- To advise on options for future services, including minimum levels of activity.
- To advise on the practicalities of moving from the short-term emergency arrangements to the longer term configuration, medical manpower issues being highlighted as of central concern.

The college representatives reported on their visits, and these reports, combined with the project team's analyses of medical staffing establishments, contract portfolios, casemix and purchasing patterns, were drawn together in the report *Rugby NHS Trust: The way forward*.[39]

A typical view from the report is the comment of the Royal College of Obstetricians and Gynaecologists:

> *'The college would view the maintenance of the status quo as unacceptable. Normally, at least four consultants are required to maintain adequate 24-hour cover. Joint working is, therefore, the only way forward.'*

Likewise, the Royal College of Anaesthetists remarked:

> *'It is unlikely that future consultant job plans based only at Rugby would have an appropriate content.'*

And the Royal College of Surgeons stated:

> *'The Hospital of St Cross does not serve a population large enough to support the appropriate facilities and medical staffing structure.'*

In the analysis section of the report, the team concluded:

> *'The main issue to emerge is that ... the trust has been generally unable to attract and retain enough good quality staff; this is largely a function of the small size of the trust and its workload and casemix.'*

Key areas where change was recommended were paediatrics, where a move towards a day assessment unit combined with community services was proposed (ending inpatient care at Rugby), accident and emergency, where a move to a minor injuries unit was proposed (with an immediate stand down of Rugby as a major incident unit), and obstetrics and gynaecology, where community gynaecology and antenatal/postnatal care in Rugby would be supported by inpatient services in Coventry (ending inpatient maternity services in Rugby).

The Rugby trust subsequently pursued a plan to merge with the Walsgrave Hospitals (acute services) and North Warwickshire (community and mental health services) trusts in April 1998. In early March 1997, following the publication of the report of the royal colleges, the chief executive of the Walsgrave Hospitals NHS Trust was asked to assume the post of acting chief executive of Rugby NHS Trust in order to manage the process of service integration. Seven project teams were established, representing the key clinical specialty areas. These teams are chaired by local GPs and local respected senior clinicians and are to report on the future way ahead for their particular specialty area.

It is anticipated that Rugby will become a largely elective hospital, providing 'cold' surgery and orthopaedics, outpatient services, day case services, 24-hour medicine according to strict protocols, diagnostic services, and a minor injuries unit. The hospital is being managed as part of the Walsgrave Hospitals NHS Trust and the community services are being managed by the North Warwickshire NHS Trust. Medical staffing will be organised within the overall establishment of Walsgrave and Rugby and posts will be shared between the two sites in order that senior and junior staff receive appropriate experience both in terms of activity and complexity.

There continues to be public concern and suspicion about the changes, and about the perceived move of services away from Rugby, and the trust is working hard to communicate the rationale for service changes, working closely with the health authority, GPs, user groups and community health councils. There are concerns about accessibility of services for local people and anxieties related to the power of a large monopoly acute services provider, which is forcing rapid change, although it is acknowledged that the new configuration offers significant opportunities for improved staff recruitment and training and the assurance of improved standards of clinical services.

The Rugby NHS Trust Annual Report for 1997 summarises the impact of medical staffing changes as follows:

> *'National NHS policy issues have made an impact locally and the Trust has had to face the implications of policies which reduce the hours of work for junior doctors,*

changes in medical staff training and the ever increasing emphasis on specialist care as embodied by the Calman/Hine Report into Cancer Care. These policies affect all healthcare providers and in Warwickshire the Health Authority proposed some major organisational change in order to respond to the changing environment.'[40]

Appendix 2

The South West London case study

Acute service review – trauma and orthopaedics, general surgery, paediatrics, maternity and gynaecology

Early in 1996 several factors combined to require an urgent and wide-ranging review of some local acute services.

- The departments of general surgery and trauma and orthopaedics at Queen Mary's Hospital were identified by the Royal College of Surgeons as of insufficient size to meet new national training requirements for junior doctors. If the Royal College withdrew junior doctor training posts from these departments, these and related services would be under threat.
- The need to meet new requirements for reduced working hours for junior doctors.
- The requirement for hospital doctors to sub-specialise, which could only be achieved at Queen Mary's Hospital and Kingston Hospital if their doctors worked in larger teams.

In April 1996, Kingston & Richmond Health Authority, Merton, Sutton and Wandsworth Health Authority, Richmond, Twickenham and Roehampton Healthcare NHS Trust (Queen Mary's Hospital) and Kingston Hospital NHS Trust agreed to work together to seek solutions to these issues. This work was undertaken in close partnership with local GPs.

A detailed review was undertaken and proposals drawn up. The solution identified was to create joint clinical teams and reorganise the affected services between Queen Mary's, Kingston and St George's Hospital sites.

Local consensus to agree proposals

The majority of local individuals and organisations, including local community health councils, supported the proposals put out to consultation.

Following this consultation process the proposals agreed and subsequently implemented in April 1997 were:

For general surgery, trauma and orthopaedics, gynaecology, and maternity services:

- The creation of joint clinical teams between Kingston Hospital and Queen Mary's Hospital.
- The continuation of outpatient clinics and day case surgery on both sites.
- The transfer of most elective inpatient work to Queen Mary's Hospital and all emergency inpatient work and maternity deliveries to Kingston Hospital.

For paediatric services:

- To split the service and create two joint teams: one for the Wandsworth catchment area between Queen Mary's Hospital and St George's Hospital and one for the Richmond catchment area between Queen Mary's Hospital and Kingston Hospital.
- The continuation of paediatric outpatient clinics at Queen Mary's.
- All inpatient admissions to either Kingston Hospital or Queen Mary's Hospital.

Following implementation of these jointly managed services, other clinical departments at Queen Mary's and Kingston Hospitals brought forward proposals for mergers, including the departments of pathology and general medicine. These initiatives were in part prompted by the unanticipated loss of accreditation for the Queen Mary's Hospital accident and emergency department from August 1997. This change in status called into serious question the long-term viability of offering acute services on the Queen Mary's Hospital site.

Acute services review – all hospital services provided by the Richmond, Twickenham & Roehampton Healthcare Trust

To respond to this, Kingston and Richmond, and Merton, Sutton and Wandsworth Health Authorities took the step of setting up a collaborative review of local services, aiming for a vision of local health services for the year 2000. An independent chair was appointed to lead the review, and the steering group included representatives of local GPs and the chief executives of the two health authorities and the three NHS trusts whose services were affected. A series of service and financial reviews took place during the summer of 1997, overseen by the executive steering committee, and liaising closely with local community health councils. Services examined were pathology, general medicine, care of older people, ENT, maxillo-facial surgery, elective surgery and mental health services. Some tertiary services, such as burns and plastic surgery were also reviewed separately. Hospital consultants and local GPs were heavily involved in the service reviews.

As well as the clinical and medical staffing drivers for change, there is a financial need for service reconfiguration. The review process was supported in 1997/98 by a £6 million special transitional grant allocated by the previous Secretary of State, but the sum is non-recurrent and dependent upon satisfying the Secretary of State's requirement for '... a clear recovery plan being in place which examines the strategic options and develops a clinically viable and affordable service configuration ....' [36]

The conclusions reached by the steering group with the support of an overwhelming consensus of medical opinion from hospital consultants and GPs and subsequently endorsed by both health authorities include the following:

- General acute inpatient services and day surgery for medical, elderly and surgical patients to move from Queen Mary's Hospital to neighbouring hospitals, mainly Kingston and St George's with no overall loss of beds or clinical capacity.
- Enhanced outpatient services to stay at Queen Mary's Hospital.
- Minor injuries services to stay at Queen Mary's open from 7 am until 11.00 pm.
- Services for older people currently provided at Putney Hospital including rehabilitation beds and outpatients together with elderly day service at Barnes Hospital to move to Queen Mary's.
- Limb fitting and specialist rehabilitation services to remain Queen Mary's but with amputation surgery transferred to Kingston Hospital.

After full implementation it is anticipated that there will be an annual revenue saving of £9m between the two health authorities.

The proposals were the subject of a formal public consultation until 26 January 1998. During the consultation public meetings were held at which the clinical issues were presented forcefully by representatives of the hospital consultants and GPs who were involved in the reviews.

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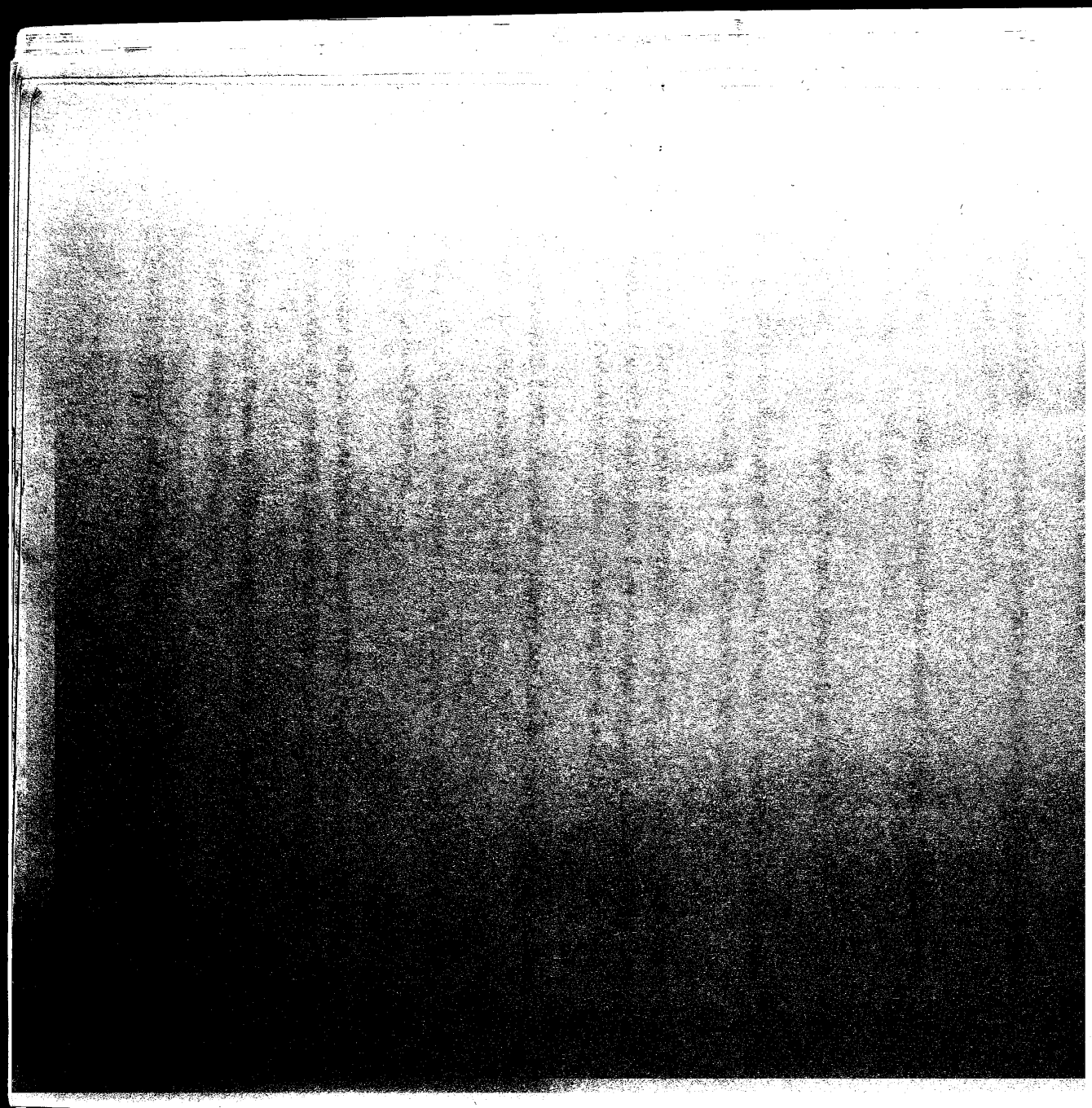

Is the drive for a primary care-led NHS having an impact on the delivery of clinical services to patients?

Are hospital doctors and their teams experiencing new patterns of working as a result of the New Deal on junior doctors' hours?

What impact has the Calman-Hine Report had on the wider organisation of hospital services?

To what extent are the Calman changes to specialist medical training forcing new configurations of specialties within and between hospitals?

This latest paper for the King's Fund London Commission examines how four major developments in health policy are forcing changes in medical staffing arrangements and in the shape of clinical services in hospitals.

Drawing on new research, a review of the literature and interviews with senior doctors and managers, the study presents some interesting findings. A major test, warn the authors, will be how the NHS responds to these developments in an environment where there is often opposition to change.

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