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The future

In this chapter I split our survey of the future into consideration of the NHS and healthcare systems in general, particularly with regards to structures and resources and how those resources are found and managed. Then I consider the hospitals and their future roles separately from new technology. Finally, I consider the changes facing the profession.

One of the most common questions asked at workshops I have run and attended is along the lines of ‘What is going to happen in the future?’ I have no crystal ball, but I have had the opportunity to do a little research for you into this question. In earlier editions I dealt with this question in a small section in Chapter 1. In this edition I give it a separate chapter because of the concern around it and because so much is now being written about it whether from governments, the DoH, academics or just interested observers. In the previous chapter I have already set out some of the immediate developments that are being introduced now. Here I concentrate on what may happen next. And don’t forget that with every new Secretary of State for Health there will always be new initiatives and change.

If you feel that change is a new issue, you need look no further than *The Principles and Practice of Medicine* by William Osler (1895) who wrote over 100 years ago, ‘Everywhere the old order changes and happy those who change with it.’ And indeed change in medicine as elsewhere is older even than that. Hippocrates (c. 460–377 BC) is generally credited with the foundation of modern medicine when he developed a new approach to medicine by refusing to use gods to explain illnesses and disease. This changed medicine radically in that it came to be seen as a science rather than a religion. In effect he managed a major change 2400 years ago.

In 1999 a paper in the *BMJ* said: ‘Research into the running and planning of hospital services has been neglected, surprising given the importance of hospitals for the public, politicians, and healthcare.’ Since then I have detected a large rise in papers and discussion of the future of hospitals and medicine.

Healthcare is generally accepted to be complex and interlinked, but some services are completely unrelated. Thus facilities need to be decentralised but adjacent. This is a gross oversimplification of course, but it's like the advice for your desk or work station: if you use it every day keep it within arm's reach; if you use it monthly put it in a file; and if you use the same group of things together only once a month put them all in a box in your drawer.

Changing cultures and expectations

Cultural shift caused by societal, individual, political or professional change has tended to try to decentralise power and influence, and increase user involvement, leading in policy-making to different expectations of healthcare. Social changes must be taken into account in both the domestic and working environment. Increasing patient expectations and patient autonomy, together with the information revolution that allows individuals greater access to global information, are drivers for change in the responsiveness of professionals. There is also rising demand due to ageing and medical advances.

The NHS has plans for reform and outlined visions of a health service designed around the patient that covers:

- a new delivery system for the NHS
- changes between health and social services
- changes for NHS doctors, nurses, midwives, therapists and other NHS staff
- changes for patients
- changes in the relationship between the NHS and the private sector.

NHS resources

If you read *The New NHS* (Talbot-Smith and Pollock 2006) or the White Paper *Our Health, Our Care* (DoH 2006) it appears at first glance that the government intends to contract out commissioning functions and budgets of PCTs to the private sector through practice-based commissioning (*see* Chapter 1, p. 37), where providers of GP services will hold the budget and commission all medical services, including primary care, community health services and hospital care. This would mean the private sector commissioning secondary care services for patients, although possibly the emphasis would be on the private sector taking over the community services, not all the budgets.

The DoH is already working with a number of organisations and PCTs are already contracting with private companies such as United Health Europe and Kaiser Permanente to operate GP practices and provide community health services through practice-based commissioning so that they will become healthcare commissioners for the patients in their care. Indeed the Mid Surrey PCT provided an example of the first management buyout of community health services by NHS staff.

The future of general practice

It is important to stress here that this chapter is not the author's views of the future but a distillation of the literature on the subject. Much is written about the future of general practice and it seems that the future of general practice is clearer than other areas of medicine. Governments will always want to cut costs and they could try to 'flood the market' with new GPs by increasing GP training numbers and medical student output so that unemployment will eventually drive doctors into salaried posts with alternate provider medical services (APMS). Or they could even get physician assistants to compete with doctors for such work.

Primary care trusts could then put practices out to tender and offer contracts to the cheapest APMS who may turn them into polyclinics staffed with cheaper salaried doctors, physicians' assistants, medical care practitioners or advanced nurse practitioners. Nurse practitioners are already employed in general practice. It seems that all 152 PCTs in the UK have already received instructions to set up such polyclinics.

The other thing of note is that Darzi polyclinics are not being built in remote, under-serviced areas but amid areas of heavily populated existing surgeries, and as Professor Pollock (2006) said, 'Of most concern is the fact that no standards for quality of care are laid down for APMS providers. Their regulation will be through the contract that may never even see the light of day if deemed to be commercially confidential.'

So the future could see the end of the generalist and the rise of salaried doctors working for APMS polyclinics run by managers. The US is said to be 20 years ahead of the UK in this and so provides a window into the future of medicine. Patients in the US are not registered with a family physician; they see a paediatrician for children with upper respiratory infections for example, an obstetrician and gynaecologist for antenatal care, smear tests etc., and an endocrinologist for diabetes. The family doctor is an employee of an APMS and works much like a junior working for a mini hospital/polyclinic covering their own admissions, doing rounds on their patients, running morning and afternoon clinics and being on call.

The future of general hospitals

Already acute services privatised by transfers to private providers account for 15% of elective surgery and further transfers will include pathology and radiology. The NHS may well become a mere funder of healthcare with control over resource allocation devolved to the private or voluntary sector. Whether they are for-profit or not-for-profit organisations the logic may be that they will concentrate on profitable treatments and services and avoid the least profitable and attempts may be made to restrict access or cap prices. There may be a move away from services related to needs and universal access.

Further, there may be a move from free at point of delivery to provide additional resources by introducing user fees such as hotel costs, and enhanced services with top-up fees, superior packages, with perhaps MRI scans and dermatology by passing waiting lists and going privately. A scheme might then involve vouchers for use in

funding basic care, allowing people to pay extra for additional care. So by the introduction of top-up fees, choice may come to mean choice of level of care.

Some authorities write of their belief that even the future of district general hospitals (DGHs) (Ham 2005), the traditional historic backbone of NHS hospital care, are at risk under the government's healthcare reforms. The threat is perceived to come from independent providers together with the public's increasing promise and expectations of choice. It is possible that with pressure from limited budgets some services may become uneconomical in hospitals struggling to achieve financial balance, particularly with future Private Finance Initiative (PFI) and Public Private Partnership (PPP) 'mortgage' commitments.

A range of strategies seems likely for dealing with this. Hospitals could compete aggressively for their market share, but this might not be financially sustainable. An alternative would be to reduce some services and focus on better productivity in areas of competitive advantage. More complex arrangements for the commissioning of care through independent networks of doctors and other professionals seems likely to follow. Another strategy might be for some hospitals to diversify their services; for example, into only sub-acute and primary care. Some writers already see this beginning to happen.

What seems certain, however, is that district general hospitals will have to compete with other NHS hospitals, NHS treatment centres, independent sector treatment centres, and established private hospitals. This could destabilise the NHS and will need careful management, although the problem might be whether all this has been fully thought through. Even Professor Darzi in his report *High Quality Care for All* (2008) argued that 'The days of the district general hospital seeking to provide all services to a high enough standard are over' with polyclinics now expected to deliver standards of treatments that until now have been provided by specialist surgical staff in hospital.

Discussions about the hospital of the future often tend to revolve around technology, things such as:

- genomics (areas of biological investigation related to the development and application of cutting-edge technology, related not only to cancer treatments but other diseases)
- robotic surgery
- integrated patient records.

It seems inevitable that advanced technology will make future improvements possible, but our research suggests that experts on the subject think the hospital of the future will be based on improvements to care rather than technology. Indeed, this focus will result in changes to a hospital's physical space, staffing strategies and patient care models.

Resource developments in primary care will also create further pressure for change in the structure of hospital provision. So looking at examples of hospitals that have already moved in that direction, what might future hospitals look like? I have identified a number of headings, some interrelated, that appear in papers, reviews and reports, as follows.

Hospital roles

Healthcare systems across the world face a challenging problem, for in order for healthcare to meet changing needs and to improve health, the traditional district general hospital needs to change. The Institute for Public Policy Research (IPPR) have published a report, *The Future Hospital: the politics of change* (Farrington-Douglas and Brooks 2007) and is one attempt to discuss this subject; further reading is available at sources listed in the related reading list at the end of this chapter.

The IPPR report explains that healthcare needs to adapt as health needs change and as the technologies and techniques of delivering modern care develop. Healthcare provision needs to change, with wide-ranging effects on the location and functions of district hospitals. They argue that changes to health services should be driven by progressive objectives. In particular, changes should aim to:

- improve safety
- improve access
- increase efficiency
- prevent ill health
- raise responsiveness
- reduce inequity and inequalities.

However, the progressive changes that IPPR advocates are, they say, hampered by a damaging and dysfunctional politics associated with changes to hospitals. At present, the best outcomes from the health system are not being achieved, nor are they achieving public engagement and confidence in the NHS. The public do not trust the process of hospital change.

The Future Hospital project at IPPR aims to develop a new process and politics of change through which changes to the health system provide safe, equitable, efficient and accessible care, while engaging the public and maintaining confidence in the NHS.

Everybody seems agreed that healthcare is changing and hospitals need to adapt. But hospitals tend to be popular local institutions, so making changes can be difficult politically. The IPPR feel that even the role of hospitals is not a simple one, as differing stakeholders have varying priorities while the public values a range of roles for their hospitals.

One other issue that has been raised is that while hospitals may contribute to improving health and even reducing inequalities, their impact on public health is limited. They could be described as providing a health 'rescue' function for life-threatening conditions and improving outcomes by concentrating technology and expertise. So for that role hospitals will continue to have an important place.

Current thinking is that the NHS should do more to prevent ill health, by being proactive and helping people avoid the need for hospital treatment. Thus what is seen and described as a preventative, equitable NHS would prioritise towards primary and community care, with the hospital sector providing more complex treatment at a safe and efficient level of specialisation.

But this introduces another paradox. The public probably assumes their local

hospital will provide a full range of services, all safe, where more can be done for patients with what were previously disabling or life-threatening conditions. In order to provide this complex healthcare safely, however, teams need to see sufficient numbers of particular conditions, so it is probable that all treatments cannot be provided at all DGHs because there will not be enough patients for teams to maintain their skills. Based on this assumption, it is no longer sustainable to maintain some services in all DGHs. And this before any account is taken of hospitals perhaps using locum staff or doctors working long hours and the results of the European Working Time Directive (EWTD). So the argument goes that more lives could be saved if some services were centralised in specialist hospitals.

However, to return to the theme of healthcare moving priorities towards health rather than illness, while some services will need to be more centralised and some other services will need to continue to be provided at the DGH much more could be provided more locally in community hospitals or GP surgeries. Outpatient diagnostic and routine surgery could be provided more locally. So although life-saving emergency care would still be centralised, minor injuries and health problems that it is said make up the majority of A&E cases could be provided locally.

A further factor in considering such a system moving towards health rather than illness care is that when people are living longer more patients are likely to be living with long-term health needs. These are not thought to be well met by hospitals focused on short-term acute treatment. So providing ongoing support and management of long-term conditions in the community and at home is a better approach than waiting for acute flare-ups and regular emergency readmission. Hence the shifting of resources from hospitals to community services it is felt will ensure that the NHS can care better for the future patient, preventing the need for hospital care and improving well-being.

So the thinking progresses to consider that more important than local access to hospitals is ensuring that primary care is more easily accessible, particularly for disadvantaged groups. More care provided in the community or at home. People should only be kept in hospital for the minimum time necessary for their treatment. More patients should be seen as day cases, rather than being admitted the day before or staying in hospital after their operation. The aim is to 'improve efficiency and productivity' but is likely to lead to and require reductions in hospital bed numbers.

Hence the stress (Darzi 2008) on improving the accessibility of primary care, with polyclinics, especially in deprived areas, particularly out of hours, so that people do not go to hospital unnecessarily, seen as a key success factor. In order to shift from an acute to a primary and community-led health service, the current reliance on hospitals needs to be reversed. And accepting that not all community facilities are in the right place or the right buildings, everyone needs to be able to see improvements in community services to justify accepting changes to their DGH.

While the present choices available to patients have not so far resulted in enough patients choosing alternative hospitals to have much impact, in the future Darzi (2008) foresees that some hospitals will need to expand or contract, depending on the movement of patients around the healthcare system. Even where patients do not significantly switch between hospitals or where patient choice is more restricted in

Wales, Scotland and Northern Ireland, hospitals will still need to respond to changing needs and to challenges to hospital configuration.

When considering efficiency, effectiveness, responsiveness and quality it is often suggested that some competition in healthcare may improve these factors. But it is stressed as important that competition does not prevent the collaboration that is required to achieve the progressive and useful change, a further dilemma considered elsewhere in this chapter.

In the past hospitals traditionally set up their services on the basis that most service is dominated by inpatient and outpatient care, but authorities claim that strategy has never received critical attention. Outpatient care developments are suggested to be uncoordinated. Evidence suggests that currently outpatient care will grow much faster than inpatient care and certain outpatient services will grow extra fast; for example, radiology, some surgical procedures and oncology will increase dramatically.

A two-day stay may become the norm with two-day discharges perhaps tripling in 10 years. These changes will require hospitals to organise staffing, work flow and dedicated units solely for the two-day patient.

The vision you will find reflected in the Darzi Report is that hospitals already offer compassionate care as a given, but tomorrow's patients will want much more. Keeping patients safe and offering the latest treatment options will also be taken as a given and will increasingly be demanded in a transparent, competitive healthcare world. So hospitals will no longer be expected to just diagnose, prescribe and undertake surgeries, but will be expected to become part of wellness centres, part hospital, part investigative centre, part hospice, part nursing school, part medical school and part group medical centre. In short, patients and their families will find integrated features from across the provider spectrum.

Hospital technology

There exist technological forces for change, such as minimally invasive therapies, diagnostic scanning techniques, microchip technology, advances in biotechnical diagnostic testing, more finely targeted drugs, together with new drug delivery systems and, perhaps, routine genetic therapy.

One such advance was 'telemedicine' where the patient consults the doctor from home via a video link, which incorporates special sensors to relay vital signs. There are now cases of robotic surgeons controlled by experts on the other side of the world successfully operating on patients.

The telephone has long been used to monitor the heart, and patients are now able to send a 30-second recording for analysis by a doctor. Follow-up telephone consultations at pre-agreed times to discuss progress mean that patients don't have to journey to the outpatients and the results have already been published. Certain specialties such as rheumatology, dermatology and neurology are more suited to this approach, and many centres already carry out post-op follow-ups, particularly for day surgery patients.

Technology is also being used to make changes to reduce workload and reduce staff levels. Hospital beds, operating tables and trolleys could be wheeled around the

corridors by robots as a universal piece of equipment. A sophisticated life support and transport unit (designed for use under battlefield conditions and commercialised after the turn of the century) was the forerunner of this mobile bed. The apparatus combines aerospace materials, information processing and systems integration technologies in a unit that is capable of autonomous function. With embedded sensors, it monitors vital signs and blood chemistries, and is equipped to provide mechanical, sensor-controlled ventilation, suction, IV infusion and cardiac defibrillation. It is used for surgery and then, after a change of linen, is moved to a recovery area, all the time providing continuous monitoring by smart sensors that can respond by activating a programmed countermeasure. A central ICU is no longer needed for monitoring acutely ill and postoperative patients, reducing the threat of cross infection.

The cardiac catheter laboratory has entered the age of molecular cardiology, drugs, having reduced the incidence of atherosclerosis, can also dissolve plaques and clots, and the number of patients requiring coronary angioplasty has dwindled. Instead, sensor-directed catheters are used to deliver angiogenesis factors and cultivated myocardial cells to ischaemic and damaged heart muscle. A few patients have been treated with recently developed sensor-based micromachines that can remove plaque from within clogged coronaries.

Hospital economics

By economics I mean the need for increasing efficiency and reducing costs because of the high costs and diversity of new procedures and complications. A recent paper suggesting that hospitals must respond in new ways to meet the increasing complexity of patient care and to address rising healthcare costs caused some observers to comment that consideration of both together was a recent new phenomenon.

Hospital patient-centred care

While patient-centred care may be thought of as philosophically at the core of any relationship between patient, hospital and doctor, it will become increasingly more common to involve patients in decisions. It is said that hospitals' most innovative qualities will be ones of process and culture. Take admitting as an example. There will be no admissions office, admitting desk or place or information desk. People entering the hospital are greeted and escorted or directed to their destination depending on whether they are a patient or visitor. A patient checking in will have a greeter to escort them directly to the inpatient room where an admitting nurse will check them in. All registration in the building is done at point of service.

Hospital staffing

All hospitals currently tend to suffer staff shortages, which causes more work for the existing staff, and longer waits for patients. Scientists think that the future lies in the hands of robotics. (See also above under technology.) Prototypes have already been used in hospitals, but the technology community sees robotics taking an even stronger hand, with robotic nurses. In the US an IWARD project goal is to have three working prototypes available of different robots designated to different nursing responsibilities

by 2010. These ‘nurbots’, as they like to call them, ‘will be able to mop floors, talk to patients, and guide visitors to rooms’.

Eventually, the plan would be to have a fully integrated information system with guide points, producing an intelligence system that would make the entire hospital an interactive part of the system. Fortunately, these nurbots are not designed to take the place of nurses, but to let the staff spend more time with the patient.

Hospital design

I’m not sure you will be particularly interested to know much about this. Suffice to say that writers envisage that hospital entrances will be bright, open, spacious places and patient rooms will be more private and large enough to accommodate patient families around the clock, and it is suggested that the layout of each room should be identical and standardised to ‘decrease inefficiency and reduce errors’. However, in the writings about this no mention is ever made of the need for cost cutting in the straitened circumstances the economy is now in.

Hospitals move to outpatient treatments

I’ve already mentioned the move to outpatient treatments, particularly related to new technologies. Here are some of the examples I have read about.

- Outpatients provided with smart pacemakers, artificial retinas, and chemical sensors seen in local primary care clinics. The doctor or nurse obtains online information about any patient’s blood chemistries, electrocardiograms, blood pressure and temperature.
- A diabetic patient freed from diabetes-related medical problems after having a smart glucose sensor and insulin reservoir system implanted.
- A healthy-looking patient with transfusion-related AIDS managed by a smart viral count sensor integrated with an implanted reservoir containing medication.
- A smart sensor and drug reservoir system has been equally effective in the management of a patient whose dysfunctional manic-depressive illness is now modulated by chemical sensors that catch the beginning of chemical imbalance and actuate the injection of appropriate drugs.
- Home healthcare telemedicine and sensor technologies have moved the outpatient laboratory and the GP surgery into the living room. Interactive video conferencing, educational programmes and a broad range of sensors now provide healthcare at a distance.
- Ambulatory treatment with smart blood pressure sensors manage the medication for patients with hypertension and send an immediate alert to the central monitoring unit when integrated sensors for cardiac function and vital signs indicate an unexpected problem.
- A ‘gut program’ detects the start of episodes of diarrhoea in a patient with irritable bowel syndrome, allowing him or her to terminate them abruptly by pressing a subcutaneous reservoir of drugs.

The future of doctors

In the US, it is said that some 20 conditions account for 80% of healthcare expenditure and 70% of personal healthcare expenditure is used on those with chronic conditions, so this has implications for clinical practice and therefore the NHS. It has therefore been suggested that healthcare provision needs to be organised around the needs of those with chronic disabilities, perhaps with more integration of primary, secondary and social care. Sir Cyril Chantler in the 2002 Harveian Oration (a lecture at the Royal College of Physicians, London) asked if the traditional divide between GPs and hospital consultants was still helpful in an age of teamwork and flexibility in the NHS, and suggested that maybe the time has come to discard the term 'consultant' in favour of the word 'specialist'.

Sir Cyril went on to identify three paradoxes at the heart of modern medical practice:

- doctors have never before been able to do so much for patients, yet not since the advent of the NHS have we been so criticised and perhaps so unhappy
- we spend massive amounts on the NHS but continue to be short of resources
- in spite of such spending and the successes of modern medicine, the prevalence of disability and illness continues to rise.

Some of these paradoxes stem from the benefits of medicine itself – people are living with disability whereas before they would have died, the achievements of medicine are leading to greater expectations and the plethora of new drugs and treatments puts more pressure on budgets. Sir Cyril also draws out the need for doctors to take a lead in their organisation of care, while continuing to conduct research, not only in the biomedical field but on how better to deliver care to patients.

He concluded:

We shall need help. Doctors in the NHS are under great pressure, we need more understanding and less criticism, more trust and less regulation. Perhaps the public, government and profession need, as has been suggested, a new concordat that sets out the rights and responsibilities of each and maybe explicitly recognises the limits of what the NHS can provide and what modern medicine can achieve.

There is also a change occurring with the people going into medicine, according to a recent study published in the *JAMA*. It found that an increasing number were picking their specialty based on the lifestyle it permitted, including more time to spend with the family, rather than on such traditional factors as pay and prestige. It was not the number of hours or the intensity of the work, but the ability to go home at the end of the day and be away from any professional responsibilities.

This trend may represent the increasing number of women in the profession, who seek a closer balance between family and professional duties. But the findings point to potential shortages of doctors in specialties, such as surgery and obstetrics, as newly qualified doctors shun fields where they are required to be on call for many hours. These critical shortages may begin to appear in as little as 10 years in some areas.

Previous studies had detected this trend, with students more inclined to select specialties with fewer work hours per week and fewer nights on call. This study showed that 55% of students' choices related to lifestyle factors, compared to 9% basing their decisions on potential income. As well as the increasing number of women doctors it also foresaw that a loss of decision making to insurance companies and treatment protocols were likely to exacerbate the trend.

There has been particular interest recently, perhaps as a response to cultural changes or professional anxiety, in several reviews of the role of and future of the doctor. There have been reports and statements on 'the role of the doctor', 'medical professionalism' and 'the future doctor'. Certainly, I have found many doctors are unhappy, feel disempowered, alienated from the system in which they work, and often yearning after a lost age when things were different.

Many health managers see doctors as part of the healthcare problem rather than part of the solution, doctors as barriers to change rather than drivers of change. These problems are true everywhere and not just a British phenomenon and perhaps as Smith (2009) put it, must 'stem in part from a gap between what doctors are trained for and the world they inhabit'.

Interestingly, nearly all articles title doctor in the singular person and thus there is a danger of thinking of the need for one kind of future doctor. Doctors do many different things, and the skills needed to be successful in public health are quite different from those needed by a neurosurgeon. Indeed a past Dean of St Mary's used to argue that medical students should be randomly picked from those reaching a minimum academic standard so that a wide range of skills and attitudes were selected, a process that avoided a row of elderly male doctors picking students in their own image.

We may also see a continuing move away from professional self-regulation towards more direct accountability. Indeed, since the previous edition there have been dramatic changes in the GMC's role and the introduction of revalidation for continued registration of all doctors (*see* Chapter 2 in Part 1). The careers of consultants will change, as the position may no longer represent the pinnacle for hospital doctors. Having reached consultant level they will have various branches to follow: towards clinical director in service work, teaching, research or management; medical director and even chief executive.

There is one final issue that is still being resolved: the move from a consultant-led to a consultant-delivered service and what kind of doctor should deliver care in the NHS. Clearly, the policy is now defined that care should be consultant-delivered. However, this does not necessarily mean that consultants should carry out every assessment or procedure. Care should be delivered by fully trained specialists (called consultants in the UK) and by those training to be consultants, a model found in most first-world countries. What NHS employers want and understand may be different as they are also concerned about the cost of a consultant-delivered service. It is possibly the responsibility of the medical profession to show that a consultant/trainee-only service will not only provide the requisite high standards but will also be cost-effective.

GMC and *Tomorrow's Doctors*

In September 2009 the General Medical Council released its publication *Tomorrow's Doctors: outcomes and standards for undergraduate medical education*. This specifies the duties of a doctor registered with the GMC. It updates the 2003 version and sets out some new GMC requirements to ensure medical students have more opportunity to apply their knowledge and skills in hospitals and surgeries before graduation. It introduces new, more rigorous standards for the delivery of medical education with a stronger emphasis on equality and diversity, involving employers and patients, the professional development of teaching staff, and ensuring that students derive maximum benefit from their clinical placements. It also places emphasis on NHS employing organisations that provided input into the earlier consultation leading to publication, emphasising service and patient requirements for the doctors of the future.

The new GMC standards have implications for resources and priorities, both for medical schools and for the NHS. It introduces student assistantships undertaken before a graduate student enters year FT1. Designed to help students become more familiar with work in a hospital or community setting and to understand practical tasks such as filling in a prescription form or ordering a blood sample, the standards will assist a junior doctor become familiar with the workplace and undertake supervised procedures. The publication can be read or downloaded at www.gmc-uk.org/education/documents/GMC_TD_2009.pdf.

Attributes for future doctors

By taking information from a wide range of sources I have tried to put together a list of attributes that are currently considered essential for modern doctors.

- **Comfortable with the collection, analysis and interpretation of data:** No longer does a doctor rely on what has been described as the 'magic' or 'art' of healing, where the power of the doctor is all, because although that was once all doctors had in their armoury there is now often a range of effective treatments. So you must have an understanding of evidence, not just of hierarchies of evidence and randomised controlled trials but of how to combine many different sorts of evidence, weighting them effectively. This is hard, and most doctors still need help, so you will need to understand the questions to ask and that you may still need help.
- **Comfort with technology:** Linked to the above and particularly with information technology and a recognition that you plus technology will be much more effective than you alone. Patients increasingly use the Internet to access information and are confronted by a maze of sometimes conflicting information. Future doctors may not be telling patients what to do but helping them navigate through the maze of information. In the past doctors have stressed 'diagnosis, diagnosis, diagnosis' as a key task. Although still true, it will be a much more complex diagnosis on multiple levels, with the help of machines and computers that will also contribute to treatment and action plans.
- **Patient-centred:** Truly and even to a point that may be uncomfortable. Patients will make choices that seem wrong and even stupid to doctors. Doctors will need to accept the authority and autonomy of patients and families in a wholly new

- concept of dominance and knowledge. As one writer put it, ‘doctors are guests in patients’ lives not priests in a cathedral of technology’. There must be a willingness to trade privilege for reliability, providing not just your best but the world’s best.
- **Communication skills:** Listening more than telling because of the above. Not developed further here as it is the subject of the first four chapters in Part 1.
 - **Health adviser and well-being coach:** No longer just using science to treat people’s diseases but being experts on helping people to live healthier lives and adapt to the chronic disease that will be their lot as they age.
 - **Teamwork:** Not dominating teams but being part of them and understanding what makes effective teams – because many teams are ineffective; doctors will no longer be lone actors but important players in increasingly complex systems. Future doctors will need to understand the complex systems and know how to work with and improve them. A lot of this is not part of the current trend towards touchy-feely skills but a set of highly technical skills that can be learned and taught. It will involve both leadership and followership skills and these can both be taught, and most doctors will need to be leaders and followers at different times. This will demand a love of diversity and enjoying working with people from different backgrounds and of different views and skills, and recognising that together we are stronger.
 - **Technically aware:** Because although it is unlikely that in the near future robots will perform procedures alone, doctors probably will be aided by robots.
 - **A capacity to change:** Will be vital as it is certain that healthcare in, say, 30–40 years from now, when many current medical students and junior doctors will still be practising, is going to be very different. Future doctors will probably need more than a capacity for change; they will need an enthusiasm for change.
 - **Profound ethical understanding:** Including recognition of the omnipresence and increasing importance of ethical issues and involving a capacity to think ethically.
 - **Enthusiasm for lifelong learning:** But we must not only continue to learn, we must love to learn.
 - **Doctors as managers:** Will be responsible for much more than the care of individual patients and will need to be aware of and maybe manage resources and staff. Doctors’ roles in management will continue to develop, as interested parties demand that doctors fulfil their roles with skill. As Plato said, quoting Protagoras in the fifth century: ‘Of all things the measure is man: of things that are, that they are, and of things that are not, that they are not.’

Staffing will remain the key, for even with the most sophisticated technical advances there will always be the need for human contact. There will be staffing changes and there are already shortages of both nurses and doctors. Adequate staffing levels may, however, be interpreted and reacted to differently by governments, patients and healthcare professionals.

Doctors will need to understand quality assurance in order to contribute to improving systems. This could make practising more rather than less fulfilling. There will be access to more effective treatments than there is now.

There will be a need to enhance and maybe develop new competencies, co-operation, teamwork, inquiry and communication, skills described as less to know answers than to find answers in a world of rapid expansion of new knowledge displacing the old.

Standing Medical Advisory Committee (SMAC)

SMAC was a statutory advisory NDPB (now abolished) established in 1949 as one of nine separate bodies to advise the Minister and the (then) Central Health Services Committee on matters relating to services provided under the National Health Service Act 1946. In 2001 the DoH published *Doctors for the Future: advice by the SMAC*, which it felt would enable doctors to have satisfying careers in the future and outline what changes might be necessary in the ways they work, bearing in mind the apparent shortage of doctors to implement the NHS Plan. Although SMAC is now abolished, I thought it worthwhile giving some space to the findings from this document as feedback at workshops has shown that one issue that often dominates questions is 'the future', and its finding serves to reiterate and reinforce some of the research into the future plans outlined above and show that some of the issues raised are not new.

The background to the document was an apparent shortage of doctors, threatening implementation of the NHS Plan. Further shortening of hours for both career doctors and trainees makes the outlook bleak, but with major innovative changes in recruiting, retention and support for doctors who will be working in more flexible ways, the decline can be prevented.

It recognised that the great majority of doctors are committed to the NHS and it is their commitment and out-of-hours work that is one of the major factors that has enabled the NHS to reach its present state of development.

However, at the time of the report there were many unfilled consultant posts and although it has been estimated that 10 000 new GPs would be needed to implement the plan, only 110 had been recruited over the previous year. Even more worrying is the fact that 20–30% of GPs intend to retire before the age of 60 and many consultants are retiring around the age of 60 instead of 65. The loss of expertise and experience is profound. Doctors are enthusiastic about change and flexibility once they are convinced it really will enhance patient care rather than divert doctors' skills and time into apparently unproductive avenues.

In order to avert a crisis and improve the health service, the SMAC identified five areas for doctors' careers that needed to be addressed urgently:

- 1 the role of doctors in the future
- 2 recruitment of medical students
- 3 undergraduate and postgraduate training
- 4 flexibility in career path
- 5 retention of older doctors.

Doctors' role in the future

It was the part on doctors' roles in the future that is pertinent to this section and that I summarise here. Doctors are trained to understand, in depth, the aetiology, pathology, natural history and epidemiology of disease as well as the diagnosis and treatment of sick patients. This is so that they can manage the huge areas of uncertainty in diagnosis and discuss treatments with patients who present with symptoms, when the number of treatment options is progressively increasing. Doctors need to understand what patients want to achieve from treatment.

Doctors have no monopoly of caring and are part of an interdisciplinary team but their main role has been the differential diagnosis of disease and the planning of care pathways in collaboration with the patient.

Patients want someone to be in overall charge of their illness even if that person is not delivering all or most of that care. Doctors also are strongly committed to 'continuity of care', but continuity of care is not the same as continuous care, which will be completely impossible under the EWTD; doctors must find new methods of ensuring continuity as well as continuing to assume legal responsibility.

This may mean doctors focusing on the role and skills they can best provide, leaving other aspects of care to those who might be better qualified to deliver it.

The papers discussed what would give doctors satisfying careers and what would encourage doctors to continue working, particularly for the NHS. Also how the career structure for doctors might change and become more flexible and how the roles of doctors will and could change.

Recruitment

The SMAC publication asked, 'Who are we recruiting for medicine?' It stated that the applications for medical school were falling and their nature changing:

- the younger generation's attitude to work is different
- younger people in general want more regular hours
- more applicants are now women, so we have to make careers appropriate for them.

It felt that because there is a range of specialties in medicine that a range of people with differing talents (not necessarily all with 4 A* levels) and interests could contribute to medicine in a variety of ways. Special access schemes could be used more widely. These schemes might even become the main way to enter medicine in the future.

More effort could be made to attract students trained and developed from other backgrounds without poaching professionals in other specialties (e.g. nurses) and cause shortages there. The selection procedures could select for more variety in types with characteristics suited to the different specialties.

Undergraduate and postgraduate training

The SMAC discussed postgraduate training, recommending a sea change with regard to flexible and part-time training.

They defined what the training is for values and ethics as well as science. On the

subject of ethics there was an interesting study in the *International Journal of Health Services* in 2007 that suggested that in addition to doctors being taught military medical ethics the broader problem of dual loyalty needs to be addressed when doctors' advocacy for the patient conflicts with other institutional or societal objectives. In other words, as medical students they should be taught how they can and should stand up to health plans, the military, HMOs, drug makers, the government or any other entity that asks doctors to violate medical ethics. Indeed the American Medical Association supported comprehensive medical education that keeps pace with the ethical challenges facing doctors. It was felt that medical students should graduate with enough ethical education to stiffen their resolve when institutions ask them to do the wrong thing.

Doctors are currently judged as competent at the end of their training largely on the basis of theoretical knowledge and technical ability. SMAC believes the current lengthy training period may reduce flexibility, harm teamwork, create rigidity in attitudes and has a deleterious effect on staffing in the NHS. In other words, there is a need to train for jobs that are doable and not for jobs which one might eventually be asked to do (when further training could be arranged and indeed should be available through lifelong learning).

Mentoring was a model that a number of members of SMAC had used or were using. SMAC recommended its more widespread use, not just for problems but for the whole of people's careers.

Information technology has a vital way of supporting clinical practice, and becoming familiar with the possibilities and technology will ultimately support doctors.

Flexibility in career path

SMAC considered how doctors make career choices, an important topic affecting recruitment into specialties. Aspirations tend to be traditional, with most doctors wanting to be GPs, surgeons or physicians. It highlighted difficulties in recruiting into some specialties, some not known or experienced by undergraduates, while others (e.g. psychiatry) are known but are perceived as more arduous or less attractive. It suggested that undergraduates need to know what different specialties involve at some stage of their undergraduate training and have some experience of all different branches of medicine.

On the issue of what makes for interesting careers for doctors, SMAC feels strongly that quality of care relates to values, commitment and enthusiasm. It is vital to take careers seriously and be proactive about managing careers. A good career is not necessarily one that relies on rising up the career hierarchy – increasing satisfaction can be achieved by lateral moves. The work–life balance is important and not something which all doctors are good at.

Retention of older doctors

Retention of specialists and GPs was identified as becoming an increasing problem. Whereas once doctors retired at the usual retirement age of 65, now they are seeking to retire earlier, so it is important to create interesting jobs throughout doctors' careers.

Doctors might also be encouraged to stay by the prospect of more flexible working patterns, improved staffing levels, preservation of pension rights for part-time working, fewer NHS administrative changes and greater professional freedom. Experience was recognised as a very important aspect of medicine and the years between 50 and 65 are particularly important in many ways to the service. The SMAC thought it important to focus on the needs of those doctors of 55 plus as their requirements of jobs may change at that stage of their careers and accommodating to their changing needs may be one way to retain them.

Doctors are faced with high demand but little ability to control their workloads and are thus liable to burn out or disengage. They do need greater control over their workload and to feel valued. The UK Medical Careers Research Group findings support GPs' expressed views. One way of enabling doctors to feel valued is to create the right type of appraisal system that enhances medical practice rather than makes doctors feel overburdened by it. One way of reducing a burden might be to consider ways of reducing time spent on less challenging, more routine activities and promote career opportunities for people approaching retirement.

SMAC felt that increasing bureaucracy might in part be due to the gap between decision makers and doctors providing the service. So it is inevitable that service providers should think of it as part of their job to become more involved in policy setting and decision making. However, the effect on clinicians of taking on managerial roles can all too often result in deskilling clinicians who are regarded as neither clinicians nor professional managers. SMAC points out the need for excellent clinical leadership, with the right level of support to enable clinical leaders to do excellent jobs.

Doctors' work is skewed by a huge number of targets they have to achieve, including those arising from the cancer plan. Targets are more easily applied to clear-cut treatments like minor surgery or time to be seen in A&E, but a large proportion of medicine is far less quantifiable and is far more complicated. Simplistic targets can easily introduce perverse incentives that disrupt the equitable provision of healthcare according to need. The government was advised to consider prioritising targets and better understanding their knock-on effects. Alternatively, the government might concentrate on standards. This is particularly important as the EWTD already affects the career grade of doctor, reducing their available working hours, and could affect all doctors when next reviewed.

Doctors are professionals whose main role is to judge possibilities and deal with undifferentiated illness. Differential diagnoses are generally the responsibility of doctors. SMAC feels that it would be difficult to transfer these responsibilities to other professionals such as nurses and that there was some evidence and experience that nurses generally did not always wish to have this responsibility. This is an issue SMAC wanted to discuss with the Standing Nursing and Midwifery Advisory Committee (SNMAC). Doctors need their role accepted, which implies a more subtle performance management approach than blunt targets.

SMAC was keen to discuss how to achieve better collaborative working and cross-over roles with other professionals, which is likely to benefit patients and also allow professionals to deliver a better service.

The popularity of salaried GP contracts (Primary Medical Services Contract – PMS) suggests jobs for GPs involving controllable hours and agreed objectives. Targets tend to be set more realistically and doctors have more face-to-face contact with patients, which is what primary care doctors generally train to achieve.

Dealing with change

On the one hand, some doctors feel overburdened by change. On the other hand, some specialties, such as public health, are more familiar with change. The lesson learned is that doctors have to engage with change in as constructive a way as possible. Doctors ought increasingly to be able to describe what they do and acquire new competencies and skills, which will enable them to make the moves they want. For instance, 'laddering across' is a concept that needs to be investigated. The idea is that doctors could become specialists in one specialty but that that specialty should not constrain their practice too rigidly. In the spirit of lifelong learning, ideally doctors should be able to acquire new skills and practise new aspects of specialism, without necessarily changing the whole specialty. Medical colleges may be able to facilitate this. It is crucial that standards of care are high and monitored. Further work needs to be done to explore how laddering across might be enabled, while standards are safeguarded. Modular training may be one way of training and formal appraisal may be one way of safeguarding standards, limiting practice to areas that have been appraised. Also, continuity of care for patients must be maintained.

They understood that colleges were looking at this and urged that they pursue this seriously. While SMAC would recommend generally shorter training, with certification of particular expertise after that, one college is currently lengthening training by one year. However, the possibility of doctors working for a time overseas, either in developed or developing countries, as part of their training or for career development, is worth fostering so that it becomes commonly accepted.

The British Association of Medical Managers (BAMM) has also published a paper, *Consultant Careers: times of change* (2001) that deals with many of these issues (but it does not seem to be available online).

Continuity of care

How doctors spend their time is an important factor, as is the extent to which they can see their contribution to patient treatment and can have some form of continuity of care, which is important to maintaining job satisfaction. The trend recently, particularly since the EWTD, in hospitals and for the out-of-hours arrangements in primary care, has been away from continuity of care.

SMAC recommended urgent consideration of how more continuity of care could be maintained, which SMAC thinks would benefit patients and improve job satisfaction of clinicians. The electronic patient record would enhance continuity of records and care.

Supporting and valuing doctors

There would be some benefit to doctors to have multidisciplinary team training with other professionals. In general, SMAC recommends that more emphasis should be given to supportive development of doctors to balance the current emphasis on appraisal, regulation, clinical governance and revalidation. They welcomed the publication of *Improving Working Lives for Doctors* (DoH 2001) and recommend its urgent implementation, stressing the need to support and value doctors so that they can in turn support and look after their patients. They recognised the need to allow doctors' careers to evolve over time and make use of their interest and enthusiasms, otherwise they may lose that interest and enthusiasm.

Interestingly, SMAC was abolished in 2005 as part of an ongoing regular review process for NDPBs. The review findings were that while SMAC and SNMAC had been a unique source of advice, providing authoritative and respected guidance to DoH and Ministers, an increasing number of other and emerging advisory mechanisms with professional medical, nursing and midwifery representation now existed, and so it recommended abolition.

The development of paramedical personnel

Medical care practitioners (MCP)

An MCP has been defined as 'someone who is a new healthcare professional who, while not a qualified doctor, works to the medical model, with the attitudes, skills and knowledge base to deliver holistic care and treatment within the general medical and/or general practice team under defined levels of supervision'. In 2005 the government began steps to introduce this new breed of medical practitioner with nurses and other professionals including science graduates being retrained as medical care practitioners. These practitioners would be able to undertake many of the tasks undertaken by GPs and would be regulated by the Health Professions Council. In 2006 a health minister said: 'By introducing new roles we are able to offer patients skilled practitioners who are able to manage the care of patients in primary and secondary care.' They will work in hospitals and primary care diagnosing patients and prescribing drugs, but not have the same medical qualifications as doctors. The role is already well established in the US, where it is known as a physician assistant (PA).

The move was part of an upheaval of who does what in the NHS, which was said at the time of introduction of this role to be in debt and short of staff, particularly after the introduction of the EWTD. The NHS said that it wanted to use each type of worker to the peak of their skills, which meant doctors becoming more specialised, nurses doing some jobs once restricted to doctors, and some traditional nursing roles being given to healthcare assistants.

The new role would fit in somewhere between a nurse and a doctor. Canada and the Netherlands were bringing in physician assistant roles into their civilian healthcare systems, and Liberia, South Africa, Australia, New Zealand and Guyana were among several other countries showing interest. Physician assistants are generalists and basically do the jobs of a junior doctor.

In the US, they diagnose and treat illnesses, order and interpret investigations, and prescribe drugs. They practise autonomously but not independently. There is a newly established UK Association of Physician Assistants. There is a good summary article in the *Medical Journal of Australia* detailing their development and work in the UK, which can be read at www.mja.com.au/public/issues/185_01_030706/par10411_fm.html.

The Competence and Curriculum Framework for the Medical Care Practitioner (DoH 2006) outlined the proposed national educational and practice standards and proposed a regulatory framework that future healthcare workers will need to meet before being able to treat patients as an MCP. Once qualified and registered, it is proposed that an MCP will be able to:

- obtain full medical histories and perform appropriate physical examination
- diagnose, manage (including prescribing) and treat illness within their competence
- request diagnostic tests and interpret the results
- provide patient education and preventative healthcare advice regarding medication, common problems and disease management issues
- decide on appropriate referral to, and liaison with, other professionals.

The 2006 document also sets out the proposals for the framework that describes the standards required of a robust and rigorous training programme, assessment, validation and revalidation. MCPs will practise under the supervision of a physician and the supervising physician will continue to be responsible for the medical care the patient receives.

The consultation document was developed at the request of the National Practitioner Programme (previously part of the Modernisation Agency, Changing Workforce Programme) and has been jointly led by the Royal College of Physicians and the Royal College of General Practitioners.

The document states that the MCP role builds upon an extensive evidence base of similar successful roles such as the physician assistant in the US and the recognition that the global labour market requires the UK to have a process in place that recognises the talent of this international workforce and can exploit the skills and experience these workers have should they wish to work in the UK in accordance with migration and work permit legislation. The document can be read at www.dh.gov.uk/en/Consultations/Closedconsultations/DH_4127837 or www.library.nhs.uk/healthmanagement/ViewResource.aspx?resID=112754.

Advanced nurse practitioner (ANP)

ANPs are nurses designated as having a higher level of expertise in a particular field. The RCN defines an advanced nurse practitioner as a registered nurse who has undertaken a specific course of study of at least first degree (Honours) level and who:

- makes professionally autonomous decisions, for which they are accountable
- receives patients with undifferentiated and undiagnosed problems and makes an assessment of their healthcare needs, based on highly developed nursing knowledge and skills, including skills not usually exercised by nurses, e.g. physical examination

- screens patients for disease risk factors and early signs of illness
- makes differential diagnosis using decision-making and problem-solving skills
- develops with the patient an ongoing nursing care plan for health, with an emphasis on preventative measures
- orders necessary investigations, and provides treatment and care individually, as part of a team and through referral to other agencies
- has a supportive role in helping people to manage and live with illness
- provides counselling and health education
- has the authority to admit or discharge patients from their caseload, and refer patients to other healthcare providers as appropriate
- works collaboratively with other healthcare professionals and disciplines
- provides a leadership and consultancy function as required.

The RCN has published a guide to the advanced nurse practitioner role, competencies and programme accreditation, available online at www.rcn.org.uk/_data/assets/pdf_file/0003/146478/003207.pdf. Another interesting discussion paper that gives a summary of the emerging issues about proposals to modernise the nursing workforce is available from a link at www.nhsemployers.org/Aboutus/Publications/Pages/TheRoleOfTheNurse.aspx.

The role of ward sister

In 2009 the RCN published a report, *The Ward Sister and Charge Nurse Role: key to quality patient care*, which concluded that ‘the role of the ward sister remains central and absolutely critical to the organisation and delivery of hospital nursing and high standards of patient care’.

Research by the RCN has demonstrated that although the majority of ward sisters enjoy their work and find nursing worthwhile, they felt that the standard of care on their wards has fallen. Ever since the Salmon Report (1966), the sister role has been devalued, it is no longer regarded as the ‘career grade’ in nursing, with management and specialist nursing offering shorter hours and better pay. The responsibility remained but the authority has been eroded. Then the ‘management revolution’ occurred following the Griffiths Report (1983), and ward-cleaning staff for example no longer worked directly for the ward sister. Formerly, if something was dirty, sister would make sure it was cleaned immediately. Now the sister must contact the domestic services manager, ask for a job number and await assistance.

This new report concluded that ‘the role of the ward sister remains central and absolutely critical to the organisation and delivery of hospital nursing and high standards of patient care’. Among its recommendations is that all ward sisters become supervisory to shifts and that directors of nursing review the remit of their ward sisters to ensure they have appropriate authority over key areas such as nutrition and cleanliness. It further showed that where ward sisters already have authority and the resources to make their wards run as well as they possibly can, patients felt the benefits.

The full report can be seen at www.rcn.org.uk/aboutus/wales/empowering_ward_sisters.

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