

Changing professional identities in the UK National Health Service: a study of the skill implications of changes in the patterns of work of radiographers and physiotherapists

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1. Context to the case studies in radiography and physiotherapy

1.1 Introduction

The Institute for Employment Research recently completed a study into the extent, causes and implications of skill deficiencies in Health and Social Care (Brown et al, 2000). This study of the skill implications of changes in the patterns of work of radiographers and physiotherapists highlights the range of pressures impinging upon the professional identities of these groups of staff. As such we feel that this study could make a contribution to debates taking place in the Identities sub-group of the TSER Forum. The findings are presented in some detail, but for those more interested in obtaining an overview the skill implications are presented in summary form at the end of each section.

1.2 Broader changes within the NHS

The NHS has undergone substantial reforms since the late 1980s. Major reorganisations followed the publication of the White Paper *Working for Patients* in 1989. Influenced by the ideas of the ‘New Right’, the White Paper emphasised patient choice and value for money, through the introduction of market mechanisms and commercial principles (Francome and Marks, 1996). The major elements of this change were the introduction of the ‘internal market’ in health care, decentralisation (for example, NHS Trusts becoming self-governing units) and the ‘purchaser/provider split’, with ‘providers’ tending to be at Trust level and health authorities becoming ‘purchasers’ (Moon, 1997). The strategy was also one of cutting costs, which had implications for skill development (Grimshaw, 1999). The system of the internal market has been criticised for the way in which it fragmented services, led to inequalities in provision and diverted resources from improving research and evidence-based services (Francome and Marks, *op cit.*, Mohan, 1997).

Since the election in 1997 of a Labour government, the emphasis has been more on partnership, with the aim of replacing the internal market with an integrated system of care (the ‘Third Way’) (Department of Health, 1997). The aims of the current government are to renew the NHS as a service with national standards, although responsibility will remain at the local level. Although the emphasis on efficiency will continue, it is intended that this will be at a broader level than previously and accompanied by measures of excellence. Local Health Improvement Programmes, involving all those engaged in planning and providing health and social care services, replace the internal market.

A further feature of the NHS reorganisations has been a change in styles and structures of management and the rise of the ‘professional manager’ (Gillespie, 1997). Since the reforms following the Griffiths report in the early 1980s (DHSS, 1983), which introduced new management arrangements based on commercial principles, new initiatives have been introduced, such as codes of conduct, management training schemes and the development of a professional body, the Institute of Health Service Management. Senior managers within the NHS are less likely to come from the health professions and more likely to have been finance and administrative staff (Ackroyd and Bolton, 1999).

1.3 Upskilling of professions allied to medicine within the NHS

There has been a steady growth in demand for the services of Professions Allied to Medicine¹ and this is likely to continue in the future (Professions Allied to Medicine and Related Grades of Staff Council, 1997). Factors contributing to this demand include the ageing population, rising expectations of patients and Government reforms, including a move toward care in the community and towards more integrated, multi-disciplinary services (Department of Health, 1997). The emphasis on rehabilitation and whole systems approaches will require changes in working practice with skills implications, including skill sharing, flexible working, additional training for baseline assessments and team working. The introduction of clinical governance², with its focus on quality of care, is also likely to impact significantly on practice within the health sector.

Radiographers and physiotherapists are predominantly female, in common with other ‘semi-professional’ groups and in contrast with the ‘key’ professional medical groups (Cockburn, 1986; Gillespie, 1996). Their professional position has changed to graduate status and they have a degree of autonomy over occupational practice through their professional bodies. The cognitive demands upon practitioners in both professions have increased as they have had to cope with an expanding knowledge base and calls for a shift towards evidence-based practice. However, their position within organisational structures continues to be subordinate to that of doctors, and this constrains patterns of work organisation and the utilisation of skills in significant respects.

1.4 Professional standards

Professional standards apply in most areas of health care, and these govern significant aspects of the training, practice and professional development of radiographers and physiotherapists. There is a high degree of regulation with professional bodies such as the Chartered Society of Physiotherapists prescribing technical competencies and minimum levels of Continuing Professional Development (CPD). Hospitals and other health care organisations are therefore obliged to provide a minimum amount of training and support for the CPD of staff in the professions allied to medicine. This high degree of regulation and highly structured training environment may act to lessen the likelihood of technical skill gaps among professional staff but it also acts to constrain flexibility in service delivery in the face of recruitment difficulties.

¹ Incorporating physiotherapists, radiographers and others.

² Clinical Governance is an initiative introduced to assure standards at local level, for example through dissemination of good practice, systems to ensure continuous improvements and risk avoidance strategies.

1.5 Typicality of case studies

The organisation of work and patterns of skill utilisation in NHS physiotherapy and radiography departments and services are subject to a series of common regulations, constraints and pressures. This means that, although the specific environments and skills of staff vary, the common influences are such that our seven case studies are likely to be broadly typical of the sector. So it is easy to imagine any individual physiotherapist or radiographer working in any of the other case study locations. Similarly, individual differences in their approaches to the utilisation of their skills could relate more to their training, age and overall experience rather than their experience of work in the case study establishment per se. Table 1 gives details of our case study establishments, and shows variation in the numbers of people employed, range of services, location and whether the department is expanding or declining.

Table 1 Case study establishments/departments and services in health sector

Case study no.	Region	Number employed in dept. or service	Rate of Growth/ Decline	Single site, or multi-site: UK or multinatl	main product/ service	type of main customer/ end user
S1	London & South East	50	Growth	Single site UK	All radiography services except for cardiac. Also radiotherapy	Hospital patients
S2	North West	27	Growth	Multi-site UK	Full range of radiography services (paediatric)	Hospital patients
S3	London & South East	118	Growth	Single site UK	Radiography	Hospital patients
S4	London & South East	35	Growth	Single site UK	Range of physiotherapy services	Hospital patients
S5	London & South East	111	Growth	Single site UK	Range of physiotherapy services	Hospital patients
S6	North West	40	Stable	Single site UK	Range of physiotherapy services	Hospital patients
S7	London & South East	54	Decline (reorganisation and recruitment problems)	Multi-site UK	Outpatients and community physiotherapy services	Hospital patients

1.5.1 Radiography

Radiographers are primarily based within the National Health Service, although a small proportion may work outside, for example, in sales teams within X-ray or therapy equipment companies. The two branches of radiography within NHS Trusts are diagnostic and therapeutic, with the latter being based in large urban centres. Diagnostic radiography uses X-rays to produce images of the body's anatomy and physiology, whereas therapeutic radiography involves the use of ionising radiation to treat disease. Its primary use is in the management of cancer. Technological developments, particularly in recent years, have led to increasingly sophisticated equipment and processes in radiography. The training for radiography is highly technological. Radiographers have to be State Registered to practise, accreditation being given by the College of Radiographers on successful completion of the requisite training. Initial training has moved towards degree-level education that encompasses both diagnostic and therapeutic radiography. Besides a general commitment to CPD, there is also an expectation that staff will be trained in the use of new equipment, with technical aspects of that training often being given by the equipment manufacturers. The nature of radiography as a community of practice, that makes extensive use of professional networks, meant that although staff might be working in particular contexts they did seem well aware of skills problems outside their immediate specialisation or locality. This meant that they could form comparative judgements about the nature of 'good practice' in the profession as a whole.

1.5.2 Physiotherapy

Physiotherapists work in a number of settings: in the NHS (in major 'acute' hospitals³ and in smaller community Trusts/services, as well as 'combined' Trusts⁴, health centres and GP practices), in private practice and in industry. While physiotherapy practice outside the NHS tends to be largely musculo-skeletal⁵, within major Trusts, physiotherapists may practise in a range of environments. These include outpatient services, respiratory care, orthopaedics, paediatrics, health care of the elderly, neurology, primary and community care, women's health, mental health and so on. The work of physiotherapists has both clinical and psycho-social aspects, including prevention of disease and injury, diagnosis, assessment and treatment of patients and management of rehabilitation. Physiotherapy is a very popular degree choice, but there are wide variations of popularity of the specialisms within the subject, with too few students specialising in care of the elderly. Undergraduate and postgraduate courses are normally certified by the Chartered Society of Physiotherapy, and provide opportunities for work-based learning.

1.6 Summary of skill implications of this section

Policy drivers: national and regional initiatives towards care in the community; integrated multi-disciplinary services; emphasis upon rehabilitation and whole system approaches; and a focus upon quality of care for individual patients.

Skill implications for physiotherapists: more physiotherapists will need training in baseline assessment, education and outreach work; inter-personal skills when dealing with the public become even more important (than that required to support an expert treatment-centred model

³ i.e. where medical and surgical care is provided mainly in the hospital.

⁴ combining both acute and community services.

⁵ i.e. relating to injuries, back problems etc.

of practice); the ability to communicate effectively across disciplines and services is vital; intra-hospital team working is more strongly emphasised.

Skill implications for radiographers: inter-personal skills when dealing with the public become even more important (than that required to support an expert treatment-centred model of practice); intra-hospital team working is more strongly emphasised.

Implications of shift to graduate status of initial training: graduates are better able to cope with the demands of an expanding technical knowledge base and the need to rely upon evidence-based practice. Weaknesses are that too few people are being trained as radiographers; there are shortages of students opting to specialise in the care of the elderly; and other areas of physiotherapy are more popular than working in the NHS.

2. Service delivery strategies

2.1 Service delivery strategies of the case study departments

The discussion in this section relates to the service delivery strategies of the case study departments, key drivers of those strategies and their responses. At the strategic level the nature of service provision in terms of the extent of specialisation, complexity and range of services offered is made in accordance with national, regional and Trust policies. The scope for manoeuvre at the level of the department is therefore limited. However, the radiography and physiotherapy departments visited tended to have business plans, generally in line with the NHS Trust's business plan⁶, although in some cases with specific objectives relating to the services to be offered or the department as a whole. Performance indicators related to issues such as waiting lists and times, activities against number of staff in post, and quality of service (monitored, for example, through the use of protocols and audit). A training plan was often incorporated within the local departmental/service business plan.

Demand for services was generally channelled through GPs and consultants. Service strategies focused on efficiency and cost effectiveness, as well as providing a high quality of care, with inherent tensions in the two strands. Customer/patient demand was considered to be paramount, not just from the point of view of public relations, but also because of the commitment of service providers. Patient-focused care was also a prime consideration. Pressure of waiting lists and times, caseload demands and other performance indicators, including time in which reports are produced, were also key issues for service strategies and clinical, operational and health and safety protocols for procedures and practices framed the provision of care. In radiography in particular, replacement of equipment was an important objective, since optimum treatment depends on having up-to-date technology. Skill mixing⁷ was adopted by departments, for some as a matter of course as part of a more general regular review of services and for others as a response to recruitment difficulties. Evidence-based practice⁸ was seen as becoming much more important.

In some cases, multi-disciplinary working had developed and in others services had become more specialised. The impetus for these developments reflects changing service strategies and greater partnership working both between agencies and between professionals. In most case studies, partnership arrangements were incorporated within the Business Plan or Service Strategy of the unit. In physiotherapy, such partnerships reflected the increased emphasis on health promotion and frequently involved local authority Social Services departments, health promotion specialists, and the voluntary sector. For example, Case S7 was piloting a number of projects that were designed to co-ordinate service provision between the Trust, the local authority, and local care providers. Projects sought to identify patients who could be treated outside the acute unit, if they also had access to enhanced care services, provided either on a residential or domiciliary basis. These changes would impact upon the skills required of senior staff by shifting the emphasis towards assessment and education rather than hands-on treatment.

⁶ Trust business plans relate to issues such as recruitment and retention, quality of service, professional development, workload of services, admissions policy, equipment, health and safety and marketing.

⁷ i.e. scrutinising and adjusting the balance of roles and skills relating to particular areas of work.

⁸ i.e. learning through evidence provided by research and examples of good practice.

2.2 Changes to service delivery strategies

The overall Trust strategies in radiography and physiotherapy influenced policy and forward planning, and service delivery strategies have changed significantly in the recent past and further changes are in prospect with continuing calls for the modernisation of health care services. In radiography, key drivers of change have included greater attention being given to patient-focused care and patient care standards, the introduction of new medicines and equipment and the development of new techniques. In physiotherapy, service delivery strategies have been influenced by the requirements of primary care groups, changing ideas about clinical governance, and financial and human resources constraints. Service delivery strategies also have had to respond to increasing demand.

Respondents felt that how Trusts framed their current service delivery strategies and how they were likely to behave in future were strongly influenced by political decisions about resources and staffing of the NHS. A range of other government initiatives, for example concerning clinical governance, clinical effectiveness, evidence-based care/practice, patient-focused care and targets for time spent on waiting lists also set a framework for decision making in this area. Cognisance also had to be taken of European legislation (e.g. EU handling directives and the Working Time Directive) and any particular local demands from patients or staff. Additionally, the mix of skills of existing staff and the relative difficulty of recruiting particular types of staff could influence the type of strategic choices made about service delivery. Overall then, virtually all departments have to balance calls for improved quality and greater efficiency with the pressures of coping with increased demand, with some units facing skills shortages and recruitment difficulties too.

In many departments there were periodic recruitment difficulties, and in extreme cases where continuing recruitment problems were encountered respondents spoke of rationing treatment in order to meet patient demand with the staff resources available. For example, one physiotherapy department had reduced the average number of treatments per patient by placing greater emphasis on patient self-management⁹. This raised equity issues regarding the differential ability and scope for some patients to maintain their treatment programme given constraints such as time or the amount of space in which to do exercises at home.

Examples of good practice included attempts to monitor quality of service through patient, GP and consultant satisfaction surveys and outcome measurement for patients. Provision of information leaflets on services, self help and home exercise programmes; advice sheets; suggestion boxes; and a robust patient complaints procedure were also important indicators that there were opportunities for users to understand and comment upon service provision. Such feedback procedures are important in ensuring that user perspectives can be fed into discussion of service delivery strategies alongside the range of top-down initiatives and concerns.

⁹ Patient self-management has become increasingly important in physiotherapy, as a preventive mechanism and a means of 'empowering' patients to participate in their own treatment and also as a means of reducing waiting lists in the longer term (although in the short term, greater time may be required from the physiotherapist, who is taking on an educational role in addition to her/his customary clinical tasks). For example, patients experiencing certain back problems are encouraged to reduce dependency on experts through an exercise programme, which is initially supervised by a physiotherapist and which they can then continue at home.

2.3 Sustainability of service delivery strategies and possibilities for alternative strategies

At a strategic level the need to act in accordance with the imperatives of quality, efficiency and responding to increasing demand should be taken as a given. This is because the scope for market responses, such as putting up prices, generating more revenue or moving into a high quality niche market, are ruled out by the very nature of the NHS. Staff in physiotherapy and radiography departments were well aware of the need to improve the quality and efficiency of their services. However, significant aspects of the service delivery strategies of particular departments are influenced by decisions, about clinical procedures and resource allocation between departments, taken outside the department. For example, major investment in new technologies, designation as a regional centre, specialising in particular forms of therapeutic treatment (e.g. paediatric), links with higher education training institutions could all transform aspects of the service delivery strategy of a radiography department. Similarly, hospital physiotherapy service delivery strategies in the medium term will be significantly influenced by the extent to which physiotherapy services are decentralised and delivered in partnership with General Practitioner practices. The development of community physiotherapy and working with other agencies could also change the siting of many physiotherapy services, such that hospital services deal predominantly with in-patients.

The particular service delivery strategies followed by the case study departments were therefore designed to cope with the immediate range of pressures they face and their understanding of which of these pressures are most pressing at any given time. At a tactical level, however, there was still some room for manoeuvre, in terms of organisation of work, skill mixing, multi-skilling, at what level to recruit staff and the nature of training and support offered to staff. Overall then, the major decisions affecting service delivery are taken at Trust, regional or national level, while at department level, there is more scope for variation in the approaches to service delivery. This could include choices in terms of models of care or development and utilisation of skills. Hence at departmental level there is limited scope to influence service delivery strategies, but alternative forms of delivery within the strategic parameters set elsewhere are possible and will be considered in later sections.

All the services we studied were currently sustainable, but subject to increasing pressures, including rising demand, partly due to the ageing of the population. The extent to which the departments were likely to flourish in future would be dependent upon the interaction between the actions of their own staff and the structures within they had to operate, not least the resources available and the skills formation and development strategies pursued nationally and locally. For example, nationally one in four radiology posts were difficult to fill and the numbers of radiographers currently in training were not sufficient to fill actual and projected vacancies.

The increasing demand for services coupled with the pursuit of higher standards of service provision and quality control had an impact on workload, working procedures and staff development. One way to respond to these pressures could be to become efficient in terms of patient throughput. On the other hand, patients now are more likely to require information about treatments and procedures, and there was a general perception that 'patients are becoming more questioning'. This could limit the speed with which patients could be processed. Further strains between the drive for efficiency and the desire for improved quality could be seen in the conflicts that sometimes arose as a consequence of multi-

disciplinary working. This could compromise attempts to reduce waiting times because of a dependence on other departments to co-operate in the delivery of the service. For example, in Case S2 radiographers were now working closely with staff from other areas in theatre. The problem was that the shortage of trained nurses providing theatre support impacted upon the delivery of a cardiac support service during normal working hours, leading to longer waiting lists. The response was to extend appointment times beyond the standard finishing time of 5.00 p.m., with overtime payments becoming necessary to maintain the service.

2.4 Summary of skill implications of this section

Strategic parameters for service delivery of both physiotherapy and radiography services are laid down at levels above the operational departments. Performance indicators on waiting lists, waiting times and quality of service would be set for each department. Departments would then be expected to meet their targets, although some targets would be expressed in terms proportionate to the number of staff in post, in recognition of difficulties with staff recruitment in some areas. Demand for departmental services are dependent upon referrals from consultants and GPs. Departments tended to be reactive to the immediate pressures they were facing, as their scope for independent action was severely constrained. Choices about service delivery therefore tended in the main to be tactical rather than strategic.

Skill mixing was one means that both physiotherapy and radiography departments used to try to get a degree of control over service delivery, especially as a response to continuing recruitment difficulties. In some cases departments would seek to develop a reputation for expertise in particular specialisms.

Some physiotherapy departments actively reviewed workload to see whether the average number of treatments could be reduced, more patients could be treated outside the acute unit, and whether others could be encouraged to play a greater role in self-management of their condition. Such approaches could be successful, particularly if combined with monitoring of the quality of service through active ways of seeking patient and GP feedback.

Skill implications for physiotherapists: multi-disciplinary and inter-agency working meant that the ability to communicate effectively across disciplines and services has become more important; inter-personal skills when dealing with the public become even more important (than that required to support an expert treatment-centred model of practice)

Skill implications for radiographers: radiographers have to balance the need to increase patient throughput with coping with patients often adopting a more questioning attitude. This emphasises again the importance for radiographers of advanced communication skills when dealing with the public. Multi-disciplinary working, involving radiographers as appropriate, was seen as vital to improve the quality of patient care, but from a departmental perspective this could increase dependence upon other departments. There were therefore increased demands for effective management of these relationships, so that an improvement in the quality of care was not achieved at the expense of a considerable reduction in efficiency.

3. Influence of technology and work organisation upon service delivery

3.1 Technological development and changes in work organisation

Technological developments, particularly in recent years, have led to increasingly sophisticated equipment and processes in radiography. New scanners have opened up possibilities of a range of new techniques and processes in radiography. They can transform significant elements of practice, have profound implications for the speed and quality of diagnosis and require staff to develop new skills. The work of radiographers is becoming more complex as they are expected to use a wider range and variety of equipment, while working at the interface between patient and clinician. Within radiography, the underpinning knowledge required to carry out the full range of radiographic techniques and technical skills is rising, and knowledge of IT is becoming increasingly important too.

Clinical staff within radiography in particular, but also physiotherapy in some cases, are now required to undertake a wider range of tasks, including some which were previously within the remit of consultants. For example, in A&E¹⁰ in one radiology department, half the work involved reporting of films, as previously, but clinical staff were now also expected to identify issues for consideration by doctors, which was a new responsibility. In physiotherapy, extended scope practitioners¹¹ or clinical specialists were developing higher level clinical skills.

Changing skill needs: radiography

In Case S3, junior staff on call needed to be able to perform a range of tasks at basic level, so as to be able to respond to whatever they were required to do: *'they need to be competent in a range of areas'*. This meant that such staff could not concentrate initially upon a few areas and then gradually build up their experience in other areas. This had important implications for training and the patterning of support from more senior staff during the time when newly qualified staff were developing their expertise.

New roles for radiography staff were also required, including administering barium enemas - a role which had previously been undertaken by radiologists, and giving IV (intravenous) injections: *'radiographers are becoming more invasive'*.

Helpers within the department required interpersonal skills and practical skills, but would soon require computing skills as processing work became computerised. There had also been some discussion at national level concerning training helpers to undertake specific tasks, such as administering basic x-rays, in order to deal with the problem of recruiting trained radiographers, but this would have to be on a limited basis, as they would still require supervision.

Within administrative and clerical grades in this department, the main changes taking place related to upgrading information/IT systems, and this required some staff to develop additional skills.

¹⁰ Accident and Emergency.

¹¹ Probably equivalent to 'Super-nurse' in the recent Government initiative.

As a result of the upgrading of skills for some clinical staff, and also as a consequence of the policy to free up time for staff to develop their own specialisms and engage in research-based practice, some departments had introduced assistants to undertake some of the more basic tasks previously performed by clinical staff. Some assistants were experienced and now worked unsupervised in certain circumstances, but others required more supervision and guidance and training from senior staff, in addition to initial on-the-job training. A key issue for both the radiography and physiotherapy professions was where the boundaries should lie between clinical staff and assistants.

Reorganisation of patterns of work following technological innovation and investment in major capital equipment was fairly common in radiography departments. The pace of technological innovation is much less in physiotherapy, and there is more of a culture of optimising service delivery in the light of what equipment is available. The effect of different patterns of work organisation, unrelated to technological change, too can impinge directly upon service delivery in a number of ways. In Case S7, the introduction of new structures for clinical governance involved the appointment of suitably qualified staff to implement the changes. The establishment of a new model of in-patient rehabilitation was accompanied by plans to change the mix of clinical skills to treat patients.

The predominance of women in physiotherapy in particular required managers to look at 'family friendly' policies and individuals' needs for part-time hours, which had to be balanced against the provision of a service catering for individual patient need. Patterns of work organisation also took account of the needs of new entrants to either specialism to gain experience and development through a process of job rotation.

Within clinical and also some assistant/helper occupations, there was evidence of up-skilling, as tasks were taken on which had previously been undertaken by higher-graded staff. For staff doing on-call duties, multi-tasking was also required. The change to these jobs was a mix of job enhancement and job enlargement, depending on the specific tasks and human resource policies of the departments concerned. In common with Ackroyd and Bolton (1999), we found little evidence of deskilling as a result of changing skill mixes within the sector. Where helpers/assistants had been introduced, the main purpose was to alleviate some of the pressures on clinical staff facing increased workloads, who themselves were taking on additional, sometimes higher-level tasks.

Moves to extended opening of services led to a pattern of work organisation that required a single member of staff to take responsibility across the specialism as a whole. The need to fulfil on-call duties created uneasiness in some staff as to whether they sufficiently trained to cover the full range of possible duties, and whether this could compromise the quality of service delivery. Patterns of work organisation that involved increased multi-disciplinary work and team working could also effect service delivery and lead to challenges to established organisational cultures and (hierarchical) ways of working.

The increasing role of assistants: physiotherapy

The role of the physiotherapy assistant was being actively developed in all of the departments visited, generally as a response to the combination of increased workloads and recruitment problems. However, for those more experienced physio assistants there was already a real issue in terms of progression routes available, and

expanding their role still further highlighted the lack of career structure at this level. One physiotherapy assistant commented on 'being stuck' at the top of her grade, while another spoke of the difficulties of starting a physiotherapy degree:

I would love to train as a physio but they don't offer part time courses and I couldn't afford to do it full time. I have family commitments to attend to as well which would make it very difficult.

In one department, managers were considering creating two new Senior Therapy Assistant posts, funded from the budget for physiotherapists, which was underspent because of recruitment problems. This would enable the department to expand its caseload and undertake more outreach work in the community while offering career progression to the existing highly experienced physio assistants. In another physiotherapy department, based in a Community Trust, management were seeking to develop an NVQ for assistants involving modules from both physiotherapy and occupational therapy, encapsulating the more holistic approach to rehabilitation within the Trust.

3.2 Summary of skill implications of this section

The work of radiographers is becoming more complex, with the technical and IT skill demands increasing and the underpinning knowledge base also expanding. The range of tasks radiographers have to perform has increased too, including the need to mark up X rays with issues for doctors to consider. Skills associated with intra-hospital team working become more important and this could be a particularly sensitive issue for radiographers, as this could present a challenge to existing hierarchies, as it required doctors to recognise their expertise. These changes therefore had implications for the training and skill development of other staff, such as consultants.

Particularly when on-call radiographers have to demonstrate basic expertise across a wide range of tasks, and some staff do not feel confident about working across such a wide range. These issues could only be satisfactorily addressed with more comprehensive training and support, but it is difficult for senior staff to find sufficient time to provide the necessary degree of support.

All departments engaged in skill mixing in an attempt to cope with increasing work pressures and recruitment difficulties. The use of assistants could also enable clinical staff to engage more fully with their own specialisms and research-led practice. Radiographers could undertake some tasks previously performed by radiologists, and assistants undertook some of the tasks usually performed by radiographers. For assistants interpersonal, practical and IT skills were particularly important. There were two barriers to the much more widespread use of assistants. The first was that agreement would need to be obtained at national level as to what they could do that involved patients. The second was that even where they could help with X rays they would still require supervision, so the presence and active support of radiographers would still be required.

Skill mixing was easier to achieve in physiotherapy. Physiotherapists themselves could specialise more and become extended scope practitioners. That is, they could be promoted while taking on more demanding professional tasks rather than taking on managerial

responsibilities. The skills mix within physiotherapy was also changing where services were moving towards more holistic models of patient care, for example through merging physiotherapy and occupational therapy, as they required more advanced communication and inter-personal skills.

The use of assistants in physiotherapy was becoming much more widespread, particularly as in this area experienced assistants could work unsupervised. However, these developments have not been fully thought through in terms of their implications for supervision, training and progression of assistants and where the boundaries should lie between their work and that of physiotherapists. For example, experienced physiotherapy assistants in our case studies had no opportunity to study part-time for a degree in physiotherapy and they could not afford to give up work to take a full-time course.

A more general organisational change was the introduction of more extended opening hours and this could sometimes conflict with the move towards a greater degree of part-time working for staff, particularly if such staff had school-age children. Other organisational changes increased the extent to which clerical and administrative staff needed to have IT and information-handling skills.

4. Skills implications of service delivery strategies

4.1 Translation of service delivery strategies into skill needs

Strategic decisions about service delivery can feed through to skill needs at the departmental level in two principal ways, organisational and professional. For example, in some of the case studies there were close links between Trust strategies, departmental business plans and human resource policies in this sector, especially relating to filling of posts, appraisal and performance review and skill mix reviews. In these cases organisation-wide concerns could impact upon skill development at departmental level, as in Case S1 where particular attention was given to actions concerning performance appraisal, training and intra-team communication. The concern with intra-team communication was considered vital, because although radiographers were being given greater responsibilities for interpretation and marking up X-rays, consultants did not always recognise their expertise. Also radiographers had to work with others to establish the most effective ways of presenting information (especially as there is variation in the local preferences for how information is presented). Where this type of training was successful and all parties had confidence in the expertise of others, genuinely worked as part of a team and appreciated the different roles and challenges facing other members of the team, then a higher quality service was delivered to patients. It is also worth noting the necessity of not considering the training of radiographers in isolation, but rather focusing upon the skill needs of the team as a whole if they are to deliver an efficient, high quality service.

At the professional level, decisions to opt for particular models of practice could affect skill utilisation and development profoundly. For example, if a physiotherapy department encourages an ‘empowering’ approach to care, where the individual patient takes increasing responsibility for her or his own care, then this can be very time intensive in the early stages, even if it eventually requires fewer interventions. This is because the ‘empowering’ approach relies upon the establishment of trust, with a focus on support and development; taking time; listening to and dealing with problems, as the individual takes on greater responsibility. The ‘control’ approach, where the practitioner is much more directive, focuses upon what the client has to do, but with ‘ownership’ of the process resting with the practitioner, may be used as a means to cope with large numbers of patients. Tensions may arise between these two approaches.

The two dimensions could also be present in a single issue. For example, a shift to a holistic approach to rehabilitation involves a professional decision that may have profound organisational characteristics if it involves changing the skill mix and undertaking different types of activities, such as more outreach work. Such strategic issues, although possessing implications for skill development and utilisation, had relatively little impact in terms of breadth and depth of coverage compared to the operational effects upon skill utilisation of increasing intensity of work.

4.2 Implications of use of technology and organisation of work

The work of radiographers includes using a range and variety of equipment, solving problems arising under pressures of time and limited space, managing patients under varying circumstances and working as part of a team. Technical and professional knowledge, interpersonal skills and sensitivity are required. Radiographers are at the interface between patient and clinician, and need well-developed inter-personal skills to deal with internal and

external customers. The increased sensitivity to the need to recognise individual difference in patients means that skills of patient management have increasingly come to the fore, as radiographers have to deal with patients with very different levels of tolerance and anxiety under varying medical circumstances. All those who come into contact with patients are now expected to explain or reassure, as appropriate.

Skill requirements within case study departments were varied. For managerial staff, these included generic skills, such as time management and interpersonal skills, within the professional context. At clinical level, for example at junior level in physiotherapy, technical skills gained during study and in subsequent rotational training were essential, but communication and interpersonal skills had gained importance in both physiotherapy and radiography over recent years. Prioritisation, caseload management and time management were all skills needing some development.

New entrants to departments were sometimes required to demonstrate evidence of training or experience in addition to their professional training. Within radiography, knowledge required included basic radiographic techniques and technical skills, physiology, physics (for MRI¹²) and anatomy, with manual dexterity and spatial skills also being important. Knowledge of IT was becoming increasingly important for radiographers and helpers. At senior clinical level, skills depended very much on the specialism.

At clerical level, literacy skills and understanding of basic procedures were required. IT was becoming used more extensively in some departments, particularly in radiography. Communication skills were seen as important by the most interviewees at all levels, as staff in all occupations had increasing contact with patients. Time management skills and being able to prioritise were also important for many clerical staff who were often the sole source of clerical support within the department, responsible for maintaining patient records and appointments as well as general reception duties. Lack of integrated IT was seen as a particular problem in community settings. Even where IT systems were integrated, as in hospitals, so as to speed up processes such as inter-departmental transfer of information, technical staff were not always familiar as to how to do this, with the result that new equipment or software was not always being used effectively.

Clinical staff:

- Move to degree-level education, requiring a more theoretical approach in initial training;
- Importance of critical thinking and professional judgement in professional practice;
- Staff are expected to know more, as tasks are passed downwards and as a result of policies concerning a more integrated service for patients (so radiographers undertake intravenous injections as well as the subsequent x-rays);
- New technology in radiography, such as MRI scanners, means there is a need to master more advanced techniques and processes;
- Learning while working requires exposure to complex clinical cases and for this learning to be supported;
- Emphasis on effective management of caseload, particularly as staff reach senior levels.

¹² Magnetic resonance imaging.

Assistants:

- As clinical staff take on more skilled tasks, so basic radiography/physiotherapy tasks are handed down to assistants;
- Within radiography in particular, changes to computerised systems require new IT skills.

Administrative and clerical:

- IT skills are in particular demand as a result of new equipment and changes to processes.

4.3 Capacity to meet skill needs

The capacity of the hospitals to meet their skill needs depended upon the extent and effectiveness of initial training, learning through work and continuing professional development (CPD). Higher education and professional bodies also had a stake in these issues. Degree-level entry is now the norm at clinical level and this was seen by managers as meeting a need for more research-based training. Skills needs in radiography depended partly on the equipment used and the service provided (for example, whether the Trust provided therapeutic as well as diagnostic radiography). Specialist skills were required for recruitment to individual specialisms, such as mammography, ultrasonography, skeletal reporting and paediatrics in radiography and musculo-skeletal, cardio-respiratory, neurological, paediatrics, rehabilitation, elderly care and community care in physiotherapy. National professional guidelines relate to job descriptions of clinical staff, and the guidelines also require that all staff are appropriately trained.

The roles of assistants in physiotherapy and radiography were evolving, and specific qualifications tended not to be required, although previous health care experience was sometimes seen as useful. On-the-job training had to be provided and sometimes led to qualifications at NVQ level 2 or 3. The key qualities sought in recruits were communication, patience, teamwork, and adaptability. No particular qualifications were required for administrative and clerical grades, although certain qualities and skills were sometimes sought: for example, skills in communication and information-handling. The hospitals had the capacity to deliver the requisite training for non-clinical staff, although such training was not always forthcoming.

In physiotherapy and radiography, appraisal systems and training plans were in place, as part of Trust-wide requirements, in the departments/services visited and these generally related to the Trust-wide human resources and business strategy. The level of training in this sector depended on funding available and often departments needed to bid to secure additional funding in order to sustain training levels. Training included continuous professional development/lifelong learning, as well as statutory training requirements such as fire, manual handling and health and safety. The capacity to provide formal training was therefore generally in place, although reluctance to release staff when departments were under-strength and working at full stretch meant that there was often a de facto reliance upon learning through working. This could be effective, but only if the requisite support was available for on the job learning. This too was not always forthcoming and staff at all levels in some departments felt there were times when they were working at the limits of their knowledge and understanding, and that this may have compromised their effectiveness to some degree and resulted in slower patient throughput.

The training plans were generally part of the overall Trust policies, but tailored to individual departmental needs. Some clinical training and management training in human resource practices tended to be organised at Trust level, making use of outside courses or delivered in-house using Education Consortia. In some cases it was felt that management training for departmental staff was limited and difficult to access because of cost and time pressures. Project management and business skills such as budgeting and negotiating contracts were areas where managers felt they needed more training. Senior staff in some departments also felt there were times when their own pressures of work meant that it was difficult to give sufficient time for supervision and support to more junior staff.

At clinical level, two-year rotations for junior staff were the norm and any training was normally provided in-house during this period. There is a strong tradition of learning through work with the expectation that you do not become fully experienced until several years after formal qualification. Continuing professional development (CPD) was seen as very important, especially at senior level, although funding for this can be a problem. CPD included training through projects, audits, giving presentations, one-to-one supervision, peer review and reading, as well as through attendance at more formal courses. Short courses within departments were available for all staff and higher qualifications such as postgraduate diplomas and Master's degrees were also encouraged for clinical staff. In most cases there was greater demand to participate in further training such as Masters courses than there was funding available. Generally staff undertook postgraduate qualifications on a part time basis and funded at least half of the costs themselves. Departments where staff had attended specialist courses or completed Masters programmes were perceived as offering more opportunities and potentially a higher level of in-house training. This could then be an important factor in external recruitment.

Progression for clinical staff had traditionally tended to be into managerial roles, although the creation of clinical specialist roles in recent years in some case study departments/services had given greater opportunity for career development. At assistant level, there were few external training opportunities and training tended to be on-the-job, although in some cases staff were working towards NVQs. Some staff at assistant level felt that they received training on a regular basis and would be able to take advantage of external training opportunities if appropriate courses arose and if departmental funding were available. Others found development opportunities to be relatively poor. For example, one helper was expected to pick up IT skills after a 'very brief training session'.

Progression opportunities at assistant level tended to be very limited, although in some instances it was possible for an assistant to move into a technician grade. Lack of progression opportunities was a major issue for some assistants who had developed their role by taking on extra responsibilities and, in physiotherapy in particular, were undertaking some of the more basic professional tasks such as running a hydrotherapy class. In one case where a department was particularly stretched due to staff shortages, an assistant was liaising between the department and the wards and assisting the physiotherapist in prioritising the caseload. Many of these more experienced assistants were at the top of their grade and had been there for several years, leading to a degree of frustration with the lack of career progression and qualification structure available to them.

Training for clerical and administrative staff was also on-the-job, again with some possibility for NVQ level training, although this tended to be rare and some departmental managers reported lack of interest in NVQs among staff at this level. Opportunities for progression

tended to be limited. At Trust level, organisations were often working towards, or had Investors in People. Examples of good practice included support for moves towards evidence-based practice and skill mix reviews being undertaken when posts became vacant.

C4.4 External recruitment difficulties

Nationally, there are perceived to be increasing problems of recruitment within both radiography and physiotherapy departments/services.

Recruitment problems and responses in radiography

Within radiography in certain specialist areas it was difficult to recruit, including paediatrics (staff with two years general radiography experience were required in this area and were only recruited at senior level), mammography and ultrasound, due to increased demand for these services and too few specialised staff available. Other reasons for difficulties in recruitment related to the location of the establishment: for example, its distance from other services, expense of living in the area and so on. Responses to recruitment difficulties included in-house training or funding of courses in particular specialist areas, skill mixing and waiting list initiatives (for example, opening later hours in particular services). Making greater use of in-house training, however, impacted upon the workload of senior staff, as this would extend their supervisory duties.

Recruitment difficulties: radiography

In department S2 there have been recruitment problems at senior grades, with only one applicant for the most recent vacancy. Getting applicants with the required level of specialist paediatric experience is problematic because there is no specialist qualification. Generally radiographers with two years experience are taken on and trained in-house, but because the field is narrow many applicants are deterred by the limited opportunities available.

At the moment staff shortages are covered by waiting list initiatives such as extending examinations into the evening. However, this may conflict with family-friendly working arrangements within the department, over the longer term. One potential solution to this issue is to recruit entry grade radiographers and train them in-house in techniques such as immobilisation and distraction. However, this will increase the burden on senior level staff, particularly because juniors are not permitted to work unsupervised for their first two years.

Recruitment problems and responses in physiotherapy

General recruitment problems in physiotherapy were exacerbated in particular areas of practice, particularly care of the elderly, perceived by many potential applicants as a less attractive option, and community physiotherapy, which is seen as offering a wider range of lower level skills and being an isolated area of work. Problems in recruiting at senior level in physiotherapy related particularly to lack of opportunities for progression within the NHS, especially if staff wished to continue clinical practice. There was competition from the private sector and from employment agencies, where the pay offered was higher.

In physiotherapy, it was perceived that the increased emphasis on health promotion and rehabilitation within service strategies (prompted by national initiatives and by the increasing proportion of elderly patients) might lead to future recruitment and skill problems. Several respondents felt that the rehabilitation specialism was less attractive than other areas, offering limited career opportunities (with little scope for practice outwith the NHS), and requiring highly developed communication skills and specialised training which was expensive and difficult to access in some locations.

In more than one department/service, a response had been to develop clinical specialist posts as described earlier, where staff could progress to a senior (superintendent) level and retain and develop their clinical expertise rather than becoming more generalist managers. The fact that the profession continued to be largely female also created particular problems for recruitment and retention if family-friendly policies had not been sufficiently developed within the organisation. Another response of some departments/services to staff shortages had been to recruit junior and senior staff from overseas, particularly from certain European countries, where the training is similar. Locum staff could be used but, as they are extremely expensive¹³ and given limited resources, this would mean that services would be further squeezed.

General issues relating to recruitment

Some respondents in physiotherapy departments felt that (national) workforce planning did not address the problems faced. The numbers entering physiotherapy and radiography training each year were limited and workforce planning did not address the issues of regional and service preference. Nor was allowance made for the fact that many junior physiotherapists stay in the NHS for only 18 months to two years, while they gain experience during rotation, and then travel and/or work with agencies or move into private practice. Numbers in radiography training have gone down in 1999, which will have implications for subsequent recruitment. Now that radiography and physiotherapy training is at degree-level, some graduates may choose not to pursue these specialisms on graduating, but to enter other traditional graduate careers. In addition to the general recruitment issues at national level, there were also regionally-specific difficulties which exacerbated the overall problems. In radiography, London and the South East appeared to experience greater problems than in the North West, considered to be primarily to do with cost of living.

Impact of recruitment difficulties

Staff shortages sometimes resulted in a more limited service being provided, or to increased waiting lists, as well as creating greater stress for existing members of staff. Many staff interviewed found themselves under increasing pressure due to the requirement to reduce waiting lists in the context of low levels of staffing, accompanied by the growing expectation of many patients that their needs will be dealt with speedily and effectively. With the additional impact of recruitment problems on the degree of training possible, many staff felt that they were unable to deliver service of the optimum quality. A Senior physiotherapist commented:

'You get used to working at a certain level with vacancies: projects don't get done, or get half done, audits and research aren't done at the level you would want and you don't get time to reflect on what you're doing and how you are working with patients'.

¹³ Approximately twice the cost of an equivalent NHS staff member.

Chronic recruitment difficulties on this scale are perhaps only amenable to national policy initiatives and recently government has turned its attention to ways to address skills shortages in the NHS, in the context of putting more resources into the NHS.

4.5 Internal skills gaps

A skill gap relates to any discrepancy between the objectives an organisation wishes to achieve in relation to its service strategy and the degree to which the workforce is qualified, skilled or trained to achieve those objectives. For example, with the new emphasis on clinical governance in the sector, the question is whether existing staff alone have the capacity to deliver the requirements of clinical governance.

Skill gaps reported in case study departments and services

The increased demand for evidence-based practice has had an impact on skills demand. Those who have come through the non-graduate route, particularly in physiotherapy, were often seen as not possessing the same degree of research training and were perceived to be less 'self-reflecting' on how and why they are following certain techniques or procedures. Conversely, the issue raised by some managers was that new entrants, particularly to physiotherapy, may have insufficient experience of exercising the *practical* skills they need to do the work, resulting in the need for very intense on-the-job training once they were qualified. In the context of a pressurised workplace environment, however, such training does not always coalesce with the 'reflective practice' approach instilled within degree-level training.

Skills deficiencies of recently qualified graduates may relate to their relative lack of knowledge of the particular contexts in which they are working. In particular, they may need support for learning to implement practical principles in particular contexts. This inexperience is partly due to the necessity for teachers to describe practice in generic terms, such that learners will have sets of practical principles with which to cope with the variety of possible practice settings. On the other hand, the shift of professional training into higher education may lead to rather less emphasis being given to 'practical knowledge' and greater emphasis on (academic) scientific knowledge. This may be partly due to teaching by academics who have a disciplinary (academic) background, rather than by professionals with practical experience. This may mean that students are not provided with authentic examples of 'knowledge use' in practice (Eraut, 1994). Whatever the reasons, the perception is that graduates lack sufficient understanding of how knowledge is used in practice.

It may be that graduates are also less proficient at some practical tasks, simply because they have had much less practice than those trained under the old system. The exposure to a range of experience over time may be particularly significant in the build-up of implicit or tacit knowledge rather than explicit knowledge. The profession as a whole is of course aware of this in the sense that it is aware that new graduates require additional training and that is one reason for widespread use of job rotation in the first two years following graduation. Experienced practitioners, however, may feel that they are increasingly stretched by other duties to give as much time to supervision and support as they should in more ideal circumstances.

The graduate perspective: physiotherapy

New entrants to the profession could feel overwhelmed by the transition between their undergraduate course and professional training once in-post. One commented:

You think you know your stuff when you come out of university but it's just the tip of the iceberg. The list of things you need to know is immense.

The most difficult and also the most rewarding aspect of the transition was the contact with patients. Communication and judgement were felt to be the key skills that were developed more on-the-job than they were at university. Access to CPD was an important consideration when considering a job offer, with the specialisms of existing staff playing a major role in attracting new recruits:

You look to see what training people have done, where their interests are...what they can do for you in terms of their knowledge.

Development opportunities for existing staff thus impact upon future recruitment of new graduates seeking to enter a department where there is a strong training ethos.

The need to fulfil on-call duties creates a growing need for staff to become knowledgeable, at least at basic level, in a range of areas. In some of the case study departments, recruitment problems had led to difficulties in ensuring that staff on-call were sufficiently trained in the full range of duties they might have to perform. Staff members sometimes reported not feeling confident that they were skilled at the level required to undertake some of the work effectively, as for example in the emergency respiratory physiotherapy case described earlier.

Increased multi-disciplinary work and teamworking placed communication demands on staff in addition to those required for dealing with patients. For example, in radiography department S2, where a new MRI scanner had been recently introduced, there was a need for radiography staff to 'educate' other professionals in the potential dangers of using the equipment incorrectly and the need to adhere to protocols. This sometimes created problems if the other professional was in a superior position and the situation required assertive handling by the junior, as this could present a challenge to established organisational cultures.

New machinery had also caused temporary skill gaps in some radiography departments, although these are generally being remedied by training initiatives, sometimes accessed through equipment manufacturers. Lack of integrated IT was seen as a particular problem in community settings. In one department, there was evidence of a skill gap in relation to IT systems introduced to speed up processes such as inter-departmental transfer of information, used by staff at technical level. Training in this case appeared to have been minimal and thus new equipment and software was not being used effectively.

4.6 Latent skills deficiencies

Latent skill gaps are those that are not necessarily readily identifiable by practitioners focusing upon current practice. Rather they are concerned with the additional skills required to deliver a higher quality service. Traditionally the focus of professional competences in the

health sector has been upon skills, methods and techniques. The professional skills of developing and implementing therapeutic plans and negotiating client goals continue to be required. However, the organisational (and administrative) competences necessary to performance in the organisation; and finally social-communicative and culturally normative competences relating to the department, team or professional group's practical environment are becoming even more important than they were in the past.

This is because work intensification and the sheer volume of work to be completed has meant that organisational or departmental difficulties have become more intense. Both radiographers and physiotherapists have to learn to deal with complexity, contradictions and uncertainty. This in turn means that the organisational and social-communicative aspects of professional performance become more significant, with a consequent emphasis upon planning, acceptance of responsibility, independent action and social skills. Helping, teaching/coaching, clinical diagnosis and monitoring remain at the heart of professional expertise, but effective management of a caseload as a whole, as well as of individual cases, has become more important.

4.7 Impact of skills deficiencies

Skill gaps and recruitment difficulties lead in some cases to attempts to introduce 'family friendly' policies to meet individuals' needs for part-time hours. On the other hand, policies designed to give patients greater access to services could limit the capacity of departments to meet flexible working arrangements tailored to individual staff requirements. Debate about different patterns of work organisation had emerged in several of the departments/services within the study, generally where a combination of increased patient numbers and recruitment problems had resulted in escalating waiting lists. These departments had implemented policies such as extending the working day into the evening or introducing weekend working so that more patients could be seen. In most cases, however, there appeared to be scope for part-time working. In one physiotherapy department, the unit manager post was split into a job-share, while several staff in other departments worked part time in order to meet family commitments. There was some evidence of implicit pressure on some individuals to extend working hours due to escalating demand, particularly in support functions such as clerical and nursing where generally only one member of staff was employed in a unit.

Another work organisation issue with implications for skills utilisation was related to the issue of cover for emergency respiratory patients in physiotherapy. In one department, the twenty-four hour coverage policy had resulted in a degree of unrest among non-specialist respiratory staff, who felt that they lacked the specialised skills to fulfil certain tasks required in a respiratory emergency. This concern was recognised by the department managers who were seeking to re-organise the shift system as a consequence. Similarly, in another department the impact of recruitment difficulties could be seen on on-call services, where the demands meant that the small group of fully trained staff was increasingly stretched. They then had problems in ensuring that all staff providing cover were trained and updated regularly. In radiography departments in particular, not having a sufficient level of competence may lead to problems with safety in on-call services.

Additional support required for new entrants coming through the graduate route, in the context of recruitment difficulties, creates increasing pressure on existing staff. In the longer-term, if recruitment problems do not ease, the gap between the quality of professional care

expected through clinical governance and clinical excellence policies, as well as professional training programmes, and the health care which it is possible to give to each patient in the circumstances, will grow. The holistic and reflective approach, which is becoming emphasised in policies, will be increasingly difficult to maintain.

4.8 Relationship between service performance and skill utilisation and development

It is important to remember, as outlined in previous sections, that hospital departments are operating in contexts and facing constraints that influence organisational performance and over which, at department level, they may have relatively little control. Professional standards, financial constraints, access to the latest technology, general fitness and health of clients and location of services can all significantly affect organisational performance in the delivery of services. Even in responding to competitive pressures hospitals have to react to what other providers do. Hence competition from the private sector for contracts and clients impacts upon hospital services and subsequent skills strategies as other providers seek out niche markets.

On the other hand, the existence of so many external constraints means that the effective organisation and management of departments, within those constraints, had an effect upon the overall performance in terms of service delivery. For example, those departments that were performing particularly well within their constraints developed strategies where they were able to review their performance over a range of issues over time. That is, they could not move towards meeting all their goals and targets at once, but they could make sure that over say a three year period all significant issues would be addressed. Those departments delivering effective performance were also able to address issues in an inter-related way, rather than responding reactively to each new pressure.

There were regional differences in the severity of recruitment difficulties, but those departments that had taken a more comprehensive approach to skill utilisation and development were performing effectively and delivering a quality service. That is, radiology departments that adjusted the skills mix according to whether they were able to recruit radiologists, experienced radiographers or the newly qualified, then needed a plan for the effective utilisation of the particular skills mix they had. Intra-team skills development was particularly important in achieving this flexible response. It was even more apparent in physiotherapy that the training and development of both physiotherapists and assistants was a vital component in the recruitment and retention of staff, and hence contributed significantly to overall organisational performance.

In some physiotherapy departments it was felt that fund-holding GPs may establish their own physiotherapy centres in competition with hospital-based services and staff. This would raise issues for service delivery and skill requirements, particularly if such GP based services were to focus provision on certain areas of practice and leave other services such as rehabilitation and general physiotherapy (which are already perceived as less attractive specialisms) to the hospital to provide. This would then increase the likelihood that many staff would see hospital practice as a stage through which they pass, as they are developing their expertise, before moving into other areas of practice. In such circumstances access to continuing training and development could act as a key factor in the initial recruitment of staff.

The above serves to illustrate that continuing change in health care means that it is necessary to have continuing processes of review to address whether there are approaches to service

delivery and skill utilisation and development that are likely to improve organisational performance. This is the issue we will seek to address in the following section, along with a caveat about the dangers of setting up an ideal model of ‘best practice’ that is unattainable in reality.

4.9 Summary of skill implications of this section

Where intra-team training was successful and all parties had confidence in the expertise of others, genuinely worked as part of a team and appreciated the different roles and challenges facing other members of the team, then a higher quality service was delivered to patients.

Moves towards more ‘empowering’ approaches to care in physiotherapy, where the individual patient takes increasing responsibility for her or his own care, were more effective with some client groups than others. This approach can be very time intensive in the early stages, as it relies upon the establishment of trust, with a focus on support and development; taking time; listening to and dealing with problems, as the individual takes on greater responsibility. Hence in some contexts there is an implicit trade-off between quality of service and effectiveness, as a treatment-centred approach can result in a faster initial patient throughput, although recurrent problems (and return visits) are more likely.

For community physiotherapy outreach work and relations with GP practices will become more important in delivering a more decentralised and comprehensive service. The ability to communicate effectively across services and disciplines has therefore become a core competence and inter-personal skills when dealing with the public, for education and prevention as well as treatment, have become even more important for those working in this area.

The increased sensitivity to the need to recognise individual difference between patients means that skills of patient management have increasingly come to the fore, as radiographers have to deal with patients with very different levels of tolerance and anxiety under varying medical circumstances. All those who come into contact with patients are now expected to explain or reassure, as appropriate.

For managerial staff, these included generic skills, such as time management and interpersonal skills, within the professional context. Prioritisation, caseload management and time management were all skills needing some development in order to deliver an efficient service.

Learning while working is important in both professions is important and requires exposure to complex clinical cases and for this learning to be supported.

Hospitals had the capacity to provide formal training, although reluctance to release staff when departments were under-strength and working at full stretch meant that there was often a de facto reliance upon learning through working. This could be effective, but only if the requisite support was available for on the job learning. This too was not always forthcoming and staff at all levels in some departments felt there were times when they were working at the limits of their knowledge and understanding, and that this may have compromised their effectiveness to some degree and resulted in slower patient throughput.

Nationally, there are major problems of recruitment in radiography and physiotherapy services, with some specialist posts being particularly difficult to fill. Responses to recruitment difficulties included in-house training or funding of courses in particular specialist areas, skill mixing and waiting list initiatives. Making greater use of in-house training, however, impacted upon the workload of senior staff, as this extended their supervisory duties.

Where there were continuing recruitment problems and limited external career opportunities as with the rehabilitation specialism in physiotherapy, which required highly developed communication skills and specialised training, one effective response had been to allow progression to clinical specialist posts.

Some staff in physiotherapy departments felt that (national) workforce planning did not address issues such as the relatively short stay of many newly qualified staff in the NHS. The numbers entering physiotherapy and radiography training each year were limited and workforce planning did not address the issues of regional and specialist preference. Staff in some areas have learned to live with a certain level of vacancies, and adjusted the organisation of their time and resources accordingly.

There were skills gaps insofar as some existing practitioners were not sufficiently reflective upon their own practice, and this meant that the quality of the service provided did not always improve as quickly as it might otherwise have done. On the other hand, some newly qualified graduates lacked sufficient understanding of how knowledge is used in practice. In both these cases the provision of supervision and support would make a significant difference, but senior staff too sometimes felt too stretched to provide the degree of support required.

Professionals learn from each other, as when radiography staff 'educate' each other in the most effective way to use new equipment.

Helping, teaching/coaching, clinical diagnosis and monitoring remain at the heart of professional expertise, but effective management of a caseload as a whole, as well as of individual cases, has become more important for both professions, and can make a significant difference to the overall efficiency of service delivery.

Those departments delivering effective performance were organised so as to ensure all significant service delivery issues were addressed over time and that issues were tackled in an inter-related way, rather than responding reactively to each new pressure.

Continuing change in health care delivery means that it is necessary to have continuing processes of review to address whether there are approaches to service delivery and skill utilisation and development that are likely to improve organisational performance.

5. Approaches to service delivery and skill utilisation and development that are likely to improve organisational performance

5.1 Introduction

The organisational changes in hospitals and the NHS, changes to professional training and development, changing ideas about the nature of practice and philosophies of care, changing patterns of work and demand for services, the adoption of new technologies and new techniques have created a turbulent environment for practice. In these circumstances there is a degree of choice for departments as to which factors they regard as most pressing in developing their particular approach to service delivery and skill utilisation. All our case studies exemplified good practice in some areas and acknowledged they had weaknesses in other areas. We do not believe it is helpful to construct a model of best practice by aggregating all the separate decontextualised aspects of good practice into a single model unattainable in practice. Rather the approach adopted by some departments of adopting a rolling review would seem to offer the most realistic way of addressing all the key issues involved in service delivery and skill utilisation and development over a period of three to four years. Such an approach seems likely to lead to continuing improvements in organisational performance in a way that acknowledges the particular constraints, challenges and choices that are to be faced in the particular context.

Decisions about balancing the competing requirements for service delivery and how to support skill development most effectively have a number of dimensions. These include professional judgement about the most appropriate approach to care and practice; organisational issues around how to cope with the particular context in which health care is provided care; caseload management; and departmental management. Hence rather than offering a single model of best practice, departments that had rolling reviews of performance were particularly well placed to make contextualised decisions about how best to optimise service delivery and skill development in the settings in which their practice is grounded.

5.2 Different models of practice for highly skilled performance in health care

Decisions about effective service delivery of people working in highly skilled occupations are at least in part bound up, either implicitly or explicitly, with particular models of professional practice. Hence lists of required skills or behaviours related to the tasks to be performed can be apparently never ending, but still not get to the heart of professional practice (Benner 1982). It can be particularly difficult to map the full complexities of performance in practice (McAlear and Hamill, 1997a). Most of our departments were acutely aware that newly qualified staff were 'less expert' in some of their judgements than more experienced staff. Some commentators believe the key differences relate 'generic' competences based upon personal attributes such as critical thinking, problem-solving and analysis (McAlear and Hamill, 1997a). This is important in that those departments that regularly recruit newly qualified staff (because they do not get experienced applicants) need to have in place mentoring, supervision or other support, so that the less experienced have opportunities to discuss and practise thinking about complex cases handled by their more experienced colleagues.

Such an approach does not involve copying the precise way others tackle problems, but rather following the general approach of drawing on knowledge, abilities, skills and attitudes used in an integrated, holistic way (Gonczi, 1994). This approach to the performance of

professional tasks draws attention to three important features. First, complex professional duties can be performed in a variety of ways. Second, these duties can draw on different combinations of knowledge, skills, abilities and attitudes in effective performance. Third, this approach implies that there is scope for professional judgement, not least in the ability to balance competing demands and the pressures of time. This means that active reflection and review should not be confined to complex cases, but should also include the different ways practitioners seek to tackle their workload as a whole. By this means it should be possible to discuss and share ideas about the most effective ways to tackle a range of problems in practice. The value of reflective practice is now widely acknowledged, and without this departments could lose their sense of shared purpose, and just react as individual practitioners, without any impetus to improve the quality of practice.

Those working in health and social care need to display ‘caring’ qualities, as well as being technically proficient, and ideas about professional competence and caring are constantly evolving. Ideas of care therefore need to be framed in a particular context and a given time. Current discussions about health and social care are intimately bound up in ideas about practice as it is, how it might or should be, and relations between occupational groups (Webb, 1996). This is most evident in current attempts to offer a more holistic approach to health care, and this has implications for intra-team training, if the goal of multi-disciplinary working is to be achieved. A distinction can therefore be made between the technical skills required and the need “to develop and sustain therapeutic caring relationships with patients and clients which are conceptualised and practised in an integrated and holistic fashion” (McAleer and Hamill, 1997a, p8). Thus, for example, physiotherapists need technical skills and the ability to engage and motivate patients to take responsibility for their own rehabilitation.

Playle (1995) identifies the shift in caring professions away from illness-cure models and the objectification of patients towards a more holistic, person-centred approach that “promotes mutual respect, genuineness and joint partnership in the achievement of patient centred goals” (McAleer and Hamill, 1997b, p5). Wright (1994) highlights the value of expressive rather than instrumental care: caring about the patient not just caring for the patient. Morrison (1991) points out that those working in the caring professions also have to deal with issues of emotional involvement, stress, work constraints, and role uncertainty. This again underlines the importance in such circumstances of having mechanisms where individuals can talk these issues through with colleagues. The most effective departments all had such mechanisms in place, although they varied in the extent to which they made use of formal or informal methods. Taylor (1992) argues that such an approach is vital as those working in the caring professions needed to relate to each other as people, not just in terms of their professional roles. McAleer and Hamill (1997b) emphasise that professionals need to be regarded “as people who share the everyday common human qualities of their patients” (p7). Our case studies bear this out, the more departments become over-loaded then the more important it is for colleagues to feel supported, and without that support retention of staff becomes much harder to achieve.

The whole area of the shape and direction of health and social care is trying to come to terms with relational and caring constructs, and there are major social, economic and political dimensions to attempts to pay greater attention to therapeutic caring relationships. Ethics and values are therefore necessarily involved in judgements about service delivery and skill utilisation and development. That is ideas about the skills required for service delivery are inevitably connected to views about how the service should be delivered, and patients,

professionals, managers and the general public may all have views on that. Some departments actively sought a wide range of about views about how best to deliver their service. Also the switch to a more holistic view of health care requires a substantive knowledge base, self-confidence and credibility if those in the caring professions are to be effective patient advocates (Logan and Boss, 1993).

5.3 Factors health professionals should consider in rolling reviews of performance in order to make contextualised decisions about how best to optimise service delivery and skill development in the settings in which their practice is grounded

We have emphasised the wide range of issues, targets and goals that affect service delivery of radiography and physiotherapy. These cannot all be addressed at the same time, but they do all need to be tackled over time. One way to achieve this is through medium-term planning and rolling reviews with a time horizon of three or four years. This helped staff make contextualised decisions about how best to optimise service delivery and skill development in the settings in which their practice is grounded. Some of the key issues for them to address were as follows:

Models of care:

Greater emphasis is being placed upon moves towards more patient-focused care; patient self-management; empowering patients; and different models of in-patient rehabilitation (e.g. linking physiotherapy and occupational therapy). Consequently consideration has to be given as how best to support multi-disciplinary working within hospitals and partnership working with other services. Such shifts have implications for the mix of clinical and other skills needed to treat patients, and require the more highly developed inter-personal and communication skills emphasised earlier in this report.

Models of practice:

The call for greater use of evidence-based practice as a basis upon which to make clinical judgements requires greater attention to be given to an understanding of the nature of research and what constitutes clinical evidence (including issues of validity, reliability and generalisability). Some departments found particular attention and support needs to be given to those practitioners who did not possess a degree or equivalent qualifications and were less likely to be familiar with research. Similarly, the model of the reflective practitioner requires time to be made available for professionals to reflect upon their experience, actions and thinking as a basis for continuing to develop their expertise.

Interaction between modes of cognition, thoughts and actions and speed of response:

One characteristic of effective performance of both physiotherapists and radiographers is that they have learned to make some decisions rapidly and intuitively, while others require much more deliberation, analysis and discussion. Newly qualified practitioners have to learn to make these distinctions and this requires a readiness for experienced practitioners to discuss their interesting cases as well as those of the novice, if the novice is to learn to model appropriate patterns of thought. The lack of time for such discussions could mean that the novice takes longer to reach the stage where he or she can make such discriminating judgements, with the consequence that service delivery is adversely affected to some degree.

Coping with an expanding knowledge base:

The amount of underpinning professional knowledge that individuals are expected to master has increased considerably. The move to graduate entry has helped here, but continuing

professional development is required, particularly, as in radiography, where the introduction of new technology and innovative techniques can transform practice. Initial training in the operation of new equipment for the first practitioners to use the equipment is usually quite good, but the most effective departments have procedures in place to ensure that such knowledge, and developing protocols learned from experience of the equipment in use, are cascaded to all relevant staff.

Models of effective organisation:

Models of clinical governance require particular emphasis to be given to dissemination of good practice and a commitment to continuing improvement. Professional networks, regional collaboration and programmes of continuing professional development are all important in the dissemination of good practice, but more informal networks also played a significant role in spreading good practice. At departmental level it is important to ensure that all practitioners are tied into such networks. Attention should also be given to monitoring the quality of service from the perspective of patients and GPs.

Managing increasing demand for services at departmental level:

Rapidly increasing demand for some services required active management at departmental level. Senior staff in some physiotherapy departments spent more time on assessment and education, rather than hands-on practice, as a means to reduce the numbers of people requiring treatment within the hospital. Consideration may need to be given to the criteria used to ration access to treatment (in relation to who gets referred, average number of treatments and so on). Some departments extended opening hours and introduced more flexible patterns of working, although these goals could sometimes conflict. A balance also has to be negotiated between handling demands for greater efficiency and improved quality.

Paying attention to performance indicators:

All staff seemed well aware of the need to pay attention to any particular performance targets outlined in Trust and/or departmental plans for service delivery (patient throughput; waiting lists; waiting times and so on). All departments actively reviewed their performance against such targets.

The possibility of different skill mixes:

Partly as a consequence of continuing skills shortages and recruitment difficulties, and the pattern of skill ownership of existing staff, all departments were thinking about the use of assistants and other support staff. Decisions about where the boundaries of responsibilities should lie are subject to both national and local negotiation. Similarly, the shift of responsibility from consultants to radiographers could mean the latter had to perform a wider range of tasks and were required to use more highly developed clinical and inter-personal skills. Both these sets of changes also reinforce the need for training and support for intra-team working.

Individual caseload management:

Caseload management and time management have become much more important at the individual level and staff may require support to do this effectively.

Taking cognisance of individual career development pathways within the service:

Particularly in physiotherapy staff in some departments may wish to stay for a limited period of time, due to individual circumstances (such as returning home) or because they are looking to move into other areas of practice after gaining experience. In such circumstances skill

utilisation and development strategies may need to be tailored to the likelihood of having continuing turnover of relatively inexperienced professional staff. Opportunities for career development for support staff are often limited, and these should be reviewed.

Learning while working:

Both professions have a tradition of job rotation for newly qualified staff, but this process requires active management in terms of mentoring, supervision, organised reflection and so on. The extent to which there are opportunities for continuing learning and development can also be a major factor in the recruitment of new staff.

5.4 Examples of optimisation strategies for service delivery

Coping with the requirements of professional practice

The above makes it clear that the most effective approach to service delivery and skills utilisation has to be developed in the light of the constraints and opportunities prevailing in particular settings. It is, however, possible to outline some common threads relating to approaches to the optimisation of service delivery and the difficulties involved in implementing these. The first is the importance of continuing professional development (CPD) as a requirement of professional practice. This is officially recognised by hospitals, but the commitment may be compromised in practice.

In health care, the drive for CPD and further training creates a strong lifelong learning culture within the practitioner community, but this is not always complementary with meeting the full range of demands on the service. Budgetary constraints as well as quality and efficiency targets in meeting patient demand resulted in the ‘rationing’ of training particularly among intermediate level staff. However, this in itself may cause tensions both between staff and management and among staff themselves due to increased workloads. This is an area that seemed particularly amenable to rolling review. All departments had to live with examples of training being squeezed because of more immediate pressures, but the more effective departments did not allow this to become standard practice, rather after cancellations in one period they moved training up their list of priorities for a subsequent period.

Second, professional emphasis is given to deliberative or self-reflective learning through systematic reflection or review. Constraints on implementation of this can be the pressures of practice such as time constraints and the number of patients. This could be a particular problem for newly trained practitioners who were often found to be lacking in the ‘coping skills’ needed in the face of such pressures, such as time management and being able to prioritise caseloads. This was particularly the case in organisations where there was a shortage of intermediate level staff (a key problem in some of the physiotherapy departments visited). The departments that made best use of their human resources seemed well aware of the need to allocate time for reflection and review, and that this was particularly important for new staff. It was clear that the learning of newly trained practitioners was facilitated if:

- regular mutual staff discussions were encouraged
- mentoring relationships were in place
- formal reviews of practice were held
- informal relationships led to work-related discussions at which more ‘provisional’ or ‘riskier’ comments could be made without pretending to be authoritative.

The active involvement of manager-practitioners and other senior staff was required for such policies to be successful. In some cases it was felt that more extensive management training was required, for example in human resources and budgeting, to support professional practice most effectively, rather than relying solely on-the-job development, which (particularly in smaller departments) appeared to be the case for most staff at management level.

Introduction of more client-centred approaches

A more client-centred focus could be more readily found in paediatrics (where dealing effectively with parents as well as the patient was a key skill) than in work with adults. In physiotherapy, although all departments emphasised interpersonal skills and enabling, discussions with some practitioners indicated that some professional staff are more aware and accepting of this need than others. The patient-centred enabling approach was more prevalent within community physiotherapy where partnership working and educational skills were commonly required to supplement technical knowledge. While there is a distinct shift towards more client-centred approaches, some practitioners still adhere to treatment-centred models of practice. The more effective departments therefore developed an approach to the implementation of more client-centred approaches to client care that acknowledged that such changes required active support and would not just happen naturally.

Skill mixing

Active consideration of skill mixing was most likely in larger health care units. Skill mixing involved examining both job content and the internal structure of the department in order to address service goals more effectively in the light of recruitment difficulties. The key elements of this entailed the development of staff at assistant and senior assistant level who increasingly took on some of the more routine practitioner responsibilities. The key issues with the introduction of such staff were demarcation between professionals and support staff and lack of accredited training and structured career progression for the support staff concerned. However, there was evidence that the development of the assistant role had contributed towards alleviating some of the constraints on service delivery caused by recruitment difficulties by freeing up valuable practitioner time to deal with more intensive cases.

Alterations to working arrangements

In some cases in health care where skill mixing had been undertaken in order to overcome recruitment shortages the issue of training and development for staff had not been fully addressed. For example, in one physiotherapy department on-call respiratory duties had been extended to all staff without those staff feeling that they had the requisite degree of specialist skills to do the job unsupervised. While this could be identified as a latent skill gap, it must be set in context of a framework of professional development that emphasises specialisation at intermediate and senior levels. This policy was being withdrawn at the time of the case study and replaced by a new rota system among current specialist staff. Similarly in radiography departments the working day was being extended in one case study department where a combination of increased referrals and recruitment shortages had led to the build up of waiting lists.

Training and development

Career development for assistants in radiography and physiotherapy was a key issue. One department within a larger hospital was attempting to address this by introducing NVQs. In the light of increasing use of such staff to cope with recruitment shortages at more senior

level it would appear crucial that this issue be addressed: otherwise the problem is just being transferred elsewhere.

One department was actively addressing the issue of senior level recruitment difficulties via the introduction of successional training. This had resulted in staff feeling more highly valued and may aid retention, but as the policy has only recently been introduced it is too early to judge its success at this stage.

Devolution of activities and development of partnership working

Some health care organisations had adopted service strategies that actively embraced partnership working with other service providers such as Social Services departments in order to deliver a more holistic approach to service delivery. This had significant skills implications in terms of multi-disciplinary working and understanding the perspective of others. The move to offer more holistic care had other effects, the most important of which was multi-skilling among physiotherapists and occupational therapists, which had raised the issue of professional demarcation and status. As a recently introduced policy it is too early to say whether this has been successful in meeting patient demand more efficiently.

Conclusions

Several factors appear key in the approach of organisations that have successfully battled with the constraints and kept pace with the drivers of change outlined in this report. These are:

- proactive rather than reactive management
- recognition of the benefits of investing in training
- willingness to evolve new models of service including developing collaborative arrangements with related service providers
- willingness of staff to work as part of a team and appreciate the different roles and challenges confronting other team members
- recognition of the centrality of learning through work for newly qualified staff and paying particular attention to the allocation of work and supporting these individuals.

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