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of radiographers in England**

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# **Professionals under pressure: learning, working and development of radiographers in England**

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## **Abstract**

This paper reviews radiographers' perspectives on issues associated with recruitment and retention, skills mixing, training and professional development associated with the employment and deployment of radiographers in England. The research is based on a series of individual interviews and two focus groups of radiographers working in England. The organisational changes in hospitals and the National Health Service, changes to professional training and development, changing patterns of work and demand for services, the adoption of new technologies and new techniques have created a situation where the work of a radiographer is markedly different from a decade ago. This means that continuing professional development has become increasingly important. However, there is a paradox whereby the very pressures that make training and continuing professional development 'important' mean it is often squeezed out in practice. Practitioners therefore use a variety of means to continue learning even when formal training opportunities are limited.

## **1. Introduction**

The research is based on a series of individual interviews and two focus groups of radiographers working in England. The interviews were undertaken as part of two investigations. The first was within the framework of a research project on 'Vocational Identity, Flexibility and Mobility in the European Labour Market (FAME)'. FAME was a three-year project completed in 2003, funded through the Fifth Framework Programme, looking at the development of occupational identities in the Czech Republic, Estonia, France, Germany, Greece, Spain and the UK. The basic aim of the seven-country study was an investigation into the how employers and employees perceive change in the dynamics of work-related identities and their socio-professional implications in relation to an increasing need for labour flexibility and mobility in the European labour market. The second study was an analysis of the skill implications of changes in the patterns of work of radiographers and physiotherapists working in seven hospital departments and highlights the range of pressures impinging upon the development of professional identities of these groups of staff (Brown, Green, Pitcher and Simm, 2000). The focus group discussions were held in June 2002 at different NHS sites in Coventry and Warwickshire, involving ten respondents. Key topics of the discussion were recruitment and retention; skill mix; training and continuing professional development; and job satisfaction. In total, 18 radiographers were interviewed, plus five managers, all but one of whom were also qualified radiographers. One respondent was male, and all bar three were working for the NHS in public hospitals, with two being employed by a company offering mobile radiography services for hospitals, while one interviewee was a former radiographer. This paper reviews both managers' and radiographers' perspectives on flexibility in the employment and deployment of radiographers in England. It also outlines some significant changes that are transforming the radiographers' role and the particular challenges of learning while working for newly qualified radiographers.

## 2. Context: the (changing) radiographer's role:

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. The precise skills needed in radiography also depend partly on the equipment used and the service provided (for example, whether therapeutic as well as diagnostic radiography is provided). 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 differences of 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 (Eraut, Alderton, Cole and Senker, 1998a). All those who come into contact with patients are also now expected to explain or reassure, as appropriate.

As the role of radiographers has changed significantly in the last 10 years, so the demand for radiography services has also increased markedly. This has meant that more radiographers are required and the work has become 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. Skills associated with intra-hospital team working are becoming more important and this can be a particularly sensitive issue for radiographers, as this could be seen to present a challenge to existing hierarchies, as it requires doctors and consultants to acknowledge the expertise of other staff. The following are some of the techniques with which radiographers now work:

- ***X-ray computerised tomography (CT)***: CT involves taking a series of axial 'slices', using gamma cameras, so detailed images of 3D anatomical structures can be constructed.
- ***Positron emission tomography***: Use of X-rays and a ring of detectors enables computerised mapping of, for example, the brain's physiological functions like oxygen and glucose utilisation in various disease states.
- ***Single-photon tomography***: Used to measure cerebral blood flow, lungs' air and blood flows and for cardiac imaging.
- ***Ultrasound***: Therapeutic use in tissue healing (physiotherapy), break up of kidney stones (urology departments) and prior to ophthalmic surgery. Also used in obstetrics to image and monitor developing foetus and, more generally, in detection of cysts or tumours in liver, breast, thyroid or abdominal organs and examination of blood flows and functioning of heart valves.
- ***MRI***: Magnetic Resonance Imaging (MRI) combines a powerful magnet with a sophisticated computer to produce pictures of any part of the body without the need for x-rays. The detail in these pictures is so good that the scanner can see a lesion as small as two millimetres, accuracy that helps in the early detection of disease and injury, allowing effective treatment to start sooner.

The clinical uses of images produced by radiographers are now used in many hospital departments and functions. For example, MRI is used in neurosciences; orthopaedics; oncology and cardiology. It can image flowing blood and organ functions, produce biochemical information on cell metabolism (using MR spectroscopy) as well as producing 3D images. In diagnosis experienced observers can detect blood clots, injuries and damage

conditions from infection to cancer. MRI can also be used for bone mineral determination through using osteoporosis scanners that can identify those at high risks of fractures as a prelude to treatment. The development of small specialised scanners as well as whole body scanners have extended the range of diagnoses that are possible using MRI technology.

The point of delineating the above techniques, all of which have been developed and/or transformed in the last two decades, is to make the point that the means and quality of the images produced are now highly detailed. As such they are transforming significant aspects not only of the role of radiographers and radiologists, but also that of a range of other clinical specialists too. In the light of the above, it might be helpful to give a practical example of the work of a radiographer.

**An example of the work of a radiographer: operating MRI equipment** (note scans may last from a few minutes to up to an hour):

***Pre-examination discussion:*** The radiographer will undertake the initial interviewing for safety and suitability for scanning; explaining procedures; relieving anxiety and providing reassurance; and removing all metallic objects. He or she will also make arrangements for patients with special requirements (because they are severely ill; have learning difficulties; are claustrophobic; or are highly anxious) or where the examination involves special co-operation from the patient (breath-holding, opening the mouth or fixing the eyes).

***MRI examination:*** The radiographer's responsibilities include:

- Positioning of patients, including use of halogen lights and lasers for exact alignment and use of pads for immobilisation and comfort;
- Maximising patient comfort - this is not just good clinical practice it is essential as patient co-operation is required in order to obtain high quality images;
- Attaching equipment for physiological monitoring (peripheral pulse, ECG and respiration) if required, as physiological signals may be used to control MRI data acquisition in order to minimise effects of motion in the images;
- Monitoring comfort of patients through use of intercom and observation window or CCTV;
- Use of computer controls to select and modify scan acquisition parameters;
- Following protocols for the particular case (scan planes, slice positioning, suggested pulse sequences and so on as these affect the type of image produced - this may depend partly upon type of system, but also upon radiological preference);
- Controlling scanner hardware: viewing and processing images, including improving quality of the computer images; selecting images for hard copy; archiving images.

***Post-examination discussion:*** The radiographer will give advice about what happens next. Separate tasks may also include checking performance of imaging equipment (although there may be modem links to equipment manufacturer for remote system fault diagnosis); and liaising with MRI technologists (such as medical physics specialists).

### **Consequences for the future:**

The above has profound consequences as radiography is moving from a support specialism to a core medical function. The implications for radiographers are that their skills will be in great demand in the short to medium term. The longer term implications are harder to predict, but it may be that carrying out certain radiography functions become core activities for other staff - it depends upon the skill mix between disciplines.

### **3. Managers' perspectives on the changing role of radiographers:**

#### **3.1 Learning**

Hospital radiographers have strong occupational identities and radiography is now a graduate entry profession. Radiographers are mainly tied to working in hospitals, but a few do work for equipment suppliers. As numerate graduates they also have opportunities to work outside the health sector if they so choose given the relatively buoyant and open graduate labour market. Employers are well aware that, given that recruitment and retention are major concerns, access to opportunities for continuing learning and training are important to many staff. Employers are also aware that professionals can and do move to other hospitals, particularly on completion of initial or further training or for promotion. On the other hand, personal circumstances and locational factors (high cost of housing; less attractive working and/or living environment) can combine such that some (promoted) posts receive very few applicants. Promotion can now be through a practitioner route (through to consultant radiographer) as well as to management, and specialist practitioners may have taken post-graduate qualifications.

Managers' perspective on learning and development are that they are generally supportive of the recent moves to graduate level entry, although they recognise that initial skills formation in a practical sense is not always as strong as they would like. Learning and training support is seen as an important factor in recruitment and retention. Similarly learning while working is seen as important, but it is not always fully supported in practice because of additional demands it puts on stretched senior staff. Continuing Professional Development (CPD) is statutory and supported by employers, and staff have to maintain records of their CPD - this does not, however, just mean attendance at formal training events. CPD can also cover time spent on learning and reflection upon practice in more informal ways. Variation in work generally makes for a rich learning environment (for example, newly qualified staff will be rotated through jobs), although some variation in specialisms makes some environments more challenging than others. Overall, employers are generally supportive of further learning in principle, although pressure of work sometimes constrains this in practice.

#### **3.2 Organisation**

All hospitals have been introducing greater flexibility in work and expect staff to accept resulting changes in patterns of work organisation, although this has sometimes proved problematic in practice (e.g. when radiographers do not feel qualified to undertake the full range of duties that may be required of them when they are on-call alone). These changes are being driven by a combination of NHS and individual Trust policies. In relation to the overall organisation of work in hospitals there are some tensions where boundaries and responsibilities overlap between occupations. Employers have been expanding roles and responsibilities and experimenting with different patterns of work organisation (and varying skill mixes). Career opportunities have also been opened up for practitioners with specialist responsibilities as well as through undertaking management responsibilities. Opportunities exist for taking on more demanding roles, but both managers and practitioners are also feeling the pressure of work intensification.

The organisational changes in hospitals and the National Health Service, 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 for health care professionals working in hospitals. Attempts to impose greater flexibility in work and expect staff to accept resulting changes in patterns of work organisation can be stressful, as when a single radiographer is on-call at night with responsibility for performing the full range of possible duties. This proved problematic in practice as many of the radiographers did not feel confident to undertake the full range of duties that may be required of them when they were on-call alone and had no one with whom they could consult over possible problems.

There are, of course, strict limits to the scope for flexibility in the medical profession and professions allied to medicine (such as radiography) because they are subject to national regulatory frameworks. However, some changes to human resources policies and patterns of work organisation are being influenced by problems of recruitment and retention of professional staff. For example, one attempt to lessen the effects of staff shortages has involved changing the skill mix between consultants and radiographers and making greater use of assistants. This was occurring within a context where there was an explicit attempt to put greater emphasis upon team working, although this represents a much greater challenge for many doctors than it does for radiographers.

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. This means that in any particular setting there is not a single model of best practice as to how health care professionals should act. Rather hospitals, and particularly hospital departments, have to make contextualised decisions about how best to optimise service delivery and skill development in the settings in which practice is grounded.

### **3.3 Individual roles**

In relation to employers' perspectives on individual scope, it is clear that individuals are being given more autonomy and responsibility, but in a context of increasing demand for services. Individual commitment has always been strongly identified with occupation and the department or service, but some human resources staff are consciously trying to reshape the focus of commitment more towards the inter-departmental team so as to improve overall quality of service to the patient. There is also recognition that individuals and departments are under increasing pressure because of increasing demand for services (and in many places staff shortages). Individuals are seen as often having multiple identification with the occupation, department and hospital. The managers' interviews show that occupational identities in radiography are undergoing significant change, partly in response to 'modernisation', changing patterns of work organisation and education and training, and increasing demand for their services. This creates a clear context of pressure for change upon the traditional occupational identities in this area, but at the same time there are very strong continuities with the past and nearly all the changes are operating to make the role of radiographers more significant. One major problem concerned work intensification, but even this is starting to be acknowledged as an issue that needs to be addressed. For radiographers there is still a strong sense of continuity between past, present

and future. Managers felt that members of these occupational communities in general feel these continuities much more strongly than the discontinuities.

### **3.4 Managers' views of the factors influencing the changing role of radiographers**

There are a wide range of issues, targets and goals that managers believe affect service delivery and individual performance in radiography services. They pointed out that radiographers have to come to terms with a range of factors that affect how they carry out their role, and these are outlined as follows:

#### ***Models of care***

Greater emphasis is being placed upon moves towards more patient-focused care and consequently consideration has to be given as how best to support multi-disciplinary working within hospitals. Such shifts have implications for the mix of clinical and other skills that radiographers will need in dealing with patients, but highly developed interpersonal and communication skills will be required in order to interact successfully with patients and a range of other staff, including consultants.

#### ***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 (Gray, 1997). In this area newly qualified (graduate) staff were perceived as having an advantage over some less qualified but more experienced colleagues because of the shift of emphasis in initial training towards understanding the rationale for evidence-based practice. Some departments found particular attention and support needed to be given to those practitioners who were less likely to be familiar with research. Newly qualified health professionals were also likely to be familiar with models of reflective practice. However, 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. Newly qualified staff needed time to reflect with others on their practice at a time when all staff were often feeling stretched by demands on their time in practice.

#### ***Coping with an expanding knowledge base***

The amount of underpinning professional knowledge that individual radiographers are expected to master has increased considerably. The move to graduate entry has helped, but continuing professional development is required, particularly as in radiography the introduction of new technology and innovative techniques is transforming practice. Initial training in the operation of new equipment for the first practitioners to use the equipment is usually quite good. Managers pointed out that the most effective departments have procedures in place to ensure that such knowledge, and developing protocols learned from experience of the equipment in use, is subsequently cascaded to all relevant staff.

#### ***New models of clinical governance requiring dissemination of good practice***

Managers pointed as to how new models of clinical governance require particular emphasis to be given to dissemination of good practice and a commitment to continuing improvement (Department of Health, 1997). Managers therefore stressed the importance of professional networks, regional collaboration and programmes of continuing professional development in the dissemination of good practice, but more informal networks also played a significant role in spreading good practice.

### ***Learning to improve intra-team communication***

In some cases managers pointed out how organisation-wide concerns could impact upon skill development of staff at departmental level, as where a hospital gave particular attention to improving 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.

### ***Learning through cascading experience***

Increased multi-disciplinary work and teamworking placed communication demands on staff in addition to those required for dealing with patients. For example, in one radiography department, 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.

## **3.5 Managers' views of the factors constraining the work of radiographers in practice**

### ***Increasing demand for services***

Rapidly increasing demand for some radiography services required active management at both the level of the hospital and the department.

### ***Paying attention to performance indicators***

All staff, but particularly managers, 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, and particularly where targets were based upon per capita funding, newly qualified staff could feel under pressure to reach experienced worker standards as quickly as possible.

### ***Individual caseload management***

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

### ***Recruitment difficulties***

Some hospitals had such chronic recruitment difficulties for radiographers that the skill utilisation and development strategies of some departments were tailored to the likelihood of having continuing turnover of relatively inexperienced professional staff.

### ***The extent to which it was possible to support learning while working***



Many departments 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 were opportunities for continuing learning and development could also be a major factor in the recruitment of new staff. Managers thought that training and reflective learning were sometimes being squeezed because of more immediate demands. So although professional emphasis is given to deliberative or self-reflective learning through systematic reflection or review, the pressures of practice, such as time constraints and the number of patients, can erode opportunities for this. Managers believed that this could be a particular problem for newly trained practitioners who were often lacking in the 'coping skills' needed in the face of such pressures, such as time management and being able to prioritise caseloads.

## **4. Perspectives of radiographers**

### **4.1 Routes into radiography**

Relatively few entrants going into initial training have always wanted to be radiographers. Some may have wanted to work in other areas of health care, such as physiotherapy, and been unable to enter their preferred courses and entered radiography through clearing. It was remarked that some posters in schools and colleges highlighted that it was a fairly easy course to get into (with variants on the theme 'done less well than you hoped in your A levels, have you considered radiography'). It was felt that the above presented a misleading picture in two ways. First, although physiotherapy presented a more glamorous image, much practice was of necessity far removed from that image. Second, the radiography course was in a number of respects quite demanding. This was because of the way the degree is organised (only four weeks holiday; working basically from 9 –5 most days; and doing placements away from the university institution you are registered with or your home, which also had cost implications).

There was also some discussion about how the switch of initial training to a radiography degree had led to less of a direct practical emphasis compared to the previous training based in a school of radiography located in a hospital. This was initially very marked, but it was felt that many degree programmes had been adapted to address this issue. Even so, one opinion was that 'people need 12 months to catch up with the level of former diploma graduates, and during that time they need practical training as they "needed so many things bringing on"'.

### **4.2 Recruitment and retention**

The acute shortage of radiographers apparent a couple of years ago has eased a little, but recruitment and retention of radiographers remains a concern: 'up to five years ago we had 40 applicants for a radiographer post from all over the country, now we are lucky to get one.' Another radiographer commented that there was also an issue of the number of staff in post compared to the increasing volume of work to do: 'we are short of staff although there are no vacancies.' National and local efforts are seeking to address the problem of too few entrants to radiography and, over time, this should ease some of the recruitment problems, but the latter point highlights there is an issue around workload, and this may affect retention. Radiographers are obviously mainly tied to working in hospitals, if they want to work as radiographers. A few do work for equipment suppliers in support roles as well as radiographers. Radiographers do not necessarily have to work as direct Trust

employees, however. There is the possibility of working for agencies or in the private sector.

Greater emphasis is now placed upon recruitment of more mature students, some in their late 40s or early 50s. While this is welcome given that in some cases they will only have 5 – 6 years of work left after qualifying this is not really a long-term solution. Issues of pay, status and progression will need to be addressed if sufficient numbers of young people are to be attracted into the profession. Also it was pointed out that radiography is a graduate entry profession and that graduates do have a range of career choices open to them upon completion of their degrees, including opportunities to work outside the health sector – often at a salary above that of basic grade radiographer. For example, last year only just over half the graduates from one training course went into radiography. In some cases radiography courses had been taken by people, with a financial or managerial background, as a stepping stone to a career in health services management.

This does mean that a simple human resources planning approach of trying to equate future supply and demand will be insufficient: 'the old style radiography training qualified people only for radiography. The new degree course opens doors to other careers as well.' Also during their studies students get an idea of what radiography is really about ('stress, direct responsibilities, physically moving people') and may decide to change careers. Overall then, any approach to tackling shortages should recognise that radiographers do now have a range of career choices and it would be prudent to recognise that not all graduates will want to work as radiographers upon completion of their training.

The shortage of radiographers causes a variety of problems for patients, staff and management. It can lead to huge waiting lists: in one trust 24 weeks for ultrasound, in another up to 60 weeks for computerised tomography. In some cases the facilities are there, but cannot be fully used because of a lack of staff. This in turn makes staff feel as if they are under constant pressure: one radiographer commented that 'firefighting is the name of the game', while another considered 'you were constantly involved in a juggling game.'

Employers elsewhere faced with recruitment and retention as major concerns have used access to opportunities for continuing learning and training as a recruitment incentive, particularly when trying to recruit newly qualified staff. In a similar vein, the extent and speed with which newly qualified staff will be rotated through jobs was identified as a possible factor likely to result in more applications. On the other hand, this approach does have resource and staffing implications, and such an approach might not result in retention of staff if they are just allowed to 'sink or swim', as often happens at the moment, with relatively little support.

Departments often 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 were opportunities for continuing learning and development could also be a major factor in the recruitment of new staff. It was felt, however, that in practice support and reflective learning were sometimes being squeezed out because of more immediate demands, and the way new staff could just be left largely to 'sink or swim' on their own. This was seen as unfortunate as newly qualified staff quite often lacked a range of skills that would enable them to cope effectively with practice in their first year of work.

### **4.3 Factors identified as likely to influence retention**

#### ***Socialisation into a community of practice***

When training for radiographers was hospital-based, radiographers did not just receive their technical training they were socialised into becoming members of a community based in a particular department and a particular hospital. There was a real sense of joining a specific community of practice as well as becoming a radiographer. A newly qualified radiographer had a sense of belonging to an organisational and/or departmental community as well as their occupational community. This contrasts with current university-based training provision where at the end of training their attachment is much more occupationally-based, and newly qualified radiographers still have to find their place within a particular work community. Unfortunately, due to pressure of work, established members of staff do not always pay sufficient attention to supporting the newly qualified who are 'often left to sink or swim'. Clearly, the sooner the newly qualified feel a 'sense of belonging' to a community of practice based in a particular department, unit or hospital the more likely they are to stay. It was also remarked that radiographers are now trained by universities and not, as previously the case, by the NHS. Therefore they might feel less obliged to the NHS.

#### ***Balance and 'fairness' between activities designed to promote recruitment and those designed to promote retention***

It was pointed out that there are issues of equity between new staff or returners being given better deals than the staff who have spent many years or even decades with the NHS. This applied particularly to on call duty, and strong feelings were expressed on this issue. Now that some new recruits or returners are more mature, the old system of balancing on-call duties with climbing up the career ladder does not work that well. Previously the incoming staff had taken on on-call duties and night shifts in order to earn extra money, for example to pay for their mortgage. As people specialised and became more financially secure they did not have to work extra hours to earn their living. Some staff clearly still welcome the opportunity to earn additional money, but for others the requirement to cover on-call duties is problematic, particularly if the core group of staff who are required to work unsocial hours is shrinking.

Even during 'normal' working hours there may be some tensions. For example, patterns of working designed to accommodate returners with family commitments may lead to departments being fully staffed between 9 – 2, but after 2 pm the staffing may be very light. The implication here was that where some staff were given more flexible working conditions the 'message' had to be given to all staff, particularly as these policies did have implications for others. This was particularly important in those cases where using new equipment from 8 - 8 was seen as vital for financial viability associated with decisions to purchase the equipment in the first place.

#### ***Access to education, training and opportunities for continuing professional development***

Staff shortages in areas like general radiography may mean that some existing staff have relatively little access to further education and training, and/or the opportunities to move into new areas of work. For example, someone who has trained to cover a particular specialism in their own time may not be given an opportunity to use their new skills. Similarly, it was felt that you may need to leave the NHS temporarily and join a private supplier of imaging services in order to get training and some experience in MRI.

### ***Career progression***

Working in a specialised area is very attractive for radiographers, particularly in those areas that are seen as being more compatible with family responsibilities. It was felt, however, that the whole area of career progression was now starting to be addressed and that things looked much brighter than a few years ago. Once again, however, it was pointed out that positive developments in one area could have unintended consequences elsewhere. One participant from a specialist area felt that when a radiographer moved into her area she was in some way 'stealing' radiographers from the main department where they were under greatest pressure. There was also an issue around making assumptions about whether an individual was interested in progression. For example, 'moving around' is seen as important for progressing with one's career. As a corollary to this those who stay for more than 8 years in their job are assumed not to wish to progress, without those responsible for them necessarily questioning this assumption.

## **4.4 Job satisfaction**

Clearly one important factor in recruitment and retention is the degree of satisfaction that radiographers get from their work. The extent of job satisfaction varies according to a range of personal, organisational and work factors, but the following general comments could be identified.

### ***Positive factors***

- working with a team of familiar people who help you out when need be; working in a 'family atmosphere';
- learning to do new things and to do them well; being able to meet challenges;
- getting to know everything about a machine and then passing on this knowledge, although it takes a lot of time;
- more rounded professional role compared to, for example, their French counterparts, seemingly 'working like robots just producing images';
- producing good films in difficult conditions, for example, when dealing with fragile patients or those who are in a great deal of pain;
- on the therapy side the continuing relationship with patients;
- having a job that involves a combination of patient contact and technical skills.

### ***Negative factors***

Most of these arose from pressure of work:

- the lack of opportunity for learning and development based upon everyday work activities: for example, there is not time to talk to the radiologist about the diagnosis based on the scan and to learn from this);
- the difficulty in establishing a rapport with patients in circumstances when the number of patients to be seen is so high;
- switching to working to new machines when you only know about 80 per cent of their capability;
- some people in radiography are currently off sick due to stress which was unheard of some years ago

Radiographers appreciated working in a team of familiar people, learning and mastering new skills, being able to meet challenges, such as producing good films under difficult conditions and the patient contact their job involves. Some were conscious they were

enjoying a much more rounded professional role than their French counterparts. Dissatisfaction was firmly associated with pressures at work affecting their opportunities for learning and development and their opportunities to establish a rapport with patients. Compulsory on-call duties in some hospitals also caused discontent, as high workloads have to be managed without being able to turn to colleagues for assistance.

In radiography, a number of national pilots on skill mix were underway. On the whole, skill mix was regarded in a positive light, not least because career structures were finally beginning to be addressed. Nevertheless, the exact division of labour between radiologists and radiographers still needed to be negotiated, and equally a decision on the grading and career progression of assistant radiographers was still pending at the time of the research. Although it was acknowledged that rotation was necessary to increase the pool of radiographers able to undertake the full range of on-call duties, there were also concerns that too much rotation could reduce the average quality of services. Radiographers also recalled incidents where their contributions had not been valued (in particular their marking of films) or it had been questioned whether radiographers could make a valuable contribution, e.g. in terms of supporting the learning of medical students.

#### **4.5 Work duties and working conditions**

##### ***Changes in work routines***

Recent changes in work routines are giving radiographers more responsibility but they are often allied to other changes that are increasing the pressure on staff. Radiographers are expected to do more for each patient (checking allergies, giving injections, scanning), but they are still expected to see the same number of patients as previously. Patient throughput must be maintained. Another example of work intensification is where previously 6 minutes were allocated per patient for a chest X ray plus 4 minutes in more severe cases (as when someone was physically incapacitated and so on), now there are only 3.5 minutes, without requirements having changed. To compensate for this, radiographers have to talk faster, with the patient possibly losing out on receiving information, and act faster (for example, 'we tell patients there is no need to take their shoes off').

##### ***Other tensions are inherent in the job***

It is the responsibility of the doctor to give the diagnosis. This applies even where the radiographer can see a major problem. One participant commented that she needed to tell 'white lies' in such circumstances: 'I have to say 'the film is fine' (when I know there is actually a tumour) just go and see the doctor in 2 days time (when for others you tell them to go in 10 days time).'

##### ***Working conditions - on-call duties***

The necessity for some staff to undertake on-call duty was the most contentious aspect of working conditions. The requirements are to be not more than 20 minutes away from the hospital or sleeping in, but in practice you are normally working most of the time. On-call could mean a 30 hour shift without sleep. 'The one radiographer who is doing the night shift might have to run round to service a number of departments and still be shouted at over the phone for not being quick enough.' The night shift radiographer might also find herself rather isolated. It was felt people should have a choice of whether or not they want to work overtime, rather than it being compulsory to undertake on-call duties in some hospitals. There were also comments about pay - for example, a radiographer in one area might work less unsocial hours, but receive more money than her counterpart elsewhere.

## 4.6 Skills mix

Skill mixing was generally regarded in a positive light. Radiographers were seen as becoming more multi-skilled and willing to take on some of the tasks previously undertaken by radiologists, but there were still some issues around reporting and the exact division of labour between radiologist and radiographer to be sorted out. Similarly, radiographers were willing to acknowledge that they should allow assistants to take over some of their existing tasks. There were also issues, however, around too much rotation as this could mean that the average quality of services might be poorer overall. On the other hand, in order to increase the pool of radiographers eligible for on-call duties it is necessary for them to feel confident to undertake the full range of duties that may be required when they were on-call alone and had no one to consult over possible problems.

### *Proposed changes to skills mix*

There are, of course, strict limits to the scope for flexibility in the medical profession and professions allied to medicine (such as radiography) because they are subject to national regulatory frameworks. However, some changes to patterns of work organisation are being attempted, with such changes being influenced by problems of recruitment and retention of professional staff. For example, one attempt to lessen the effects of staff shortages has involved changing the skill mix between consultants and radiographers and making greater use of assistants. There were a number of national pilots on skills mixing and it is now proposed that there should be a four-tier career ladder for radiographers.

The first level is the assistant practitioner, who will qualify via the NVQ route, and go on a university course that has been shortened to 10 weeks. In some places the dental technician course was adapted for this purpose. Some existing helpers (people with no qualifications, just on the job training) in a variety of positions on wards and in departments could be encouraged to go on such courses to help combat recruitment problems. The second level, the state registered practitioner, is the current career grade for which there is undergraduate level training. The third level of the advanced practitioner involves an extended role, while still being involved in practice, and the fourth level, consultant practitioner, involves leadership in practice.

### *Issues arising from the proposed changes and pilot projects*

There have been delays associated with this because it is linked to governmental promises about pay modernisation (this may cause further delays of up to a year). For example, there is no definite decision as to whether there will be a progression route from assistant practitioner to state registered practitioner. Also support for more assistant practitioners could be undermined, if there was only a small wage differential between the two grades, when the latter have had to complete a full three-year degree programme. As a consequence recruitment at this level might then become more problematic and/or there might be retention problems with the graduates.

### *Status issues and relations with doctors*

Even when radiographers mark films (with red dots indicating problems), this is sometimes not followed up (or valued?) by some doctors, and has resulted in patients being discharged, only to return several days later when the original indicative diagnosis is confirmed. 'Some doctors are nice' and value the contribution of radiographers, 'but quite a few are arrogant and rude'. In other cases too the contribution of radiographers may be under-valued. One example was when an A and E meeting was scheduled and the

radiographers were overlooked. In another case discussions were taking place about offering support to medical students, and it was suggested that radiographers could make a contribution. However, this suggestion was rebuffed with the comment 'what can radiographers teach a medical student?' This was seen as insulting to radiographers.

### *Positive aspects of the changing career structure*

Some of the focus group participants felt that 'about six years ago it appeared as if nothing was going to change, now they are changing the career structure and someone, such as you, is finally listening to us'. There was a feeling that the skill mixing proposals and changing career structure are symptomatic of an attempt to address some long-standing problems.

## **4.7 Training and continuing professional development**

Training and continuing professional development was often talked of as 'important' by managers but often squeezed out in practice. In one trust the training budget needs to be raised via income generation, but the person responsible did not know how this could be done: 'as a result there is no training budget, which is regarded as criminal'. In other cases the training budget was used to pay expensive bank or agency staff. There is a vicious circle operating here: lack of training leads to a lower quality of service. There are also issues around cover for those undertaking training. Without this staff who take up training can feel as if they are penalising their colleagues as the situation (of being short of staff) in the department is exacerbated. The pilot project (on skill mixing) had funds allocated for back-fill money for those attending training - this was successful and indeed those radiographers who replaced the training radiographers subsequently stayed on.

Radiographers had been lost because they were not given developmental opportunities. The point about needing to move if you wanted training in specialist areas was reiterated: for example, in MRI there are 'lots of jobs, high up the scale' and if you wanted to do this you could easily move to Alliance Medical (a private provider of radiography services).' Indeed one of the attractions of the private sector is that they often offer much better training. This was unfortunate in that losing people because they wanted further training represented a double loss. Not only did they require replacing, but in some cases they were adding to the pool of people working for agencies, and given that agency rates could be 50% more expensive than staff rates this was creating further problems in relation to service delivery.

Training opportunities were seen as a means of recruiting/retaining staff, 'but this only works if the trust can deliver on these promises.' Without back-fill for training some managers felt 'they could not afford to let staff go on training courses', but recognised that if they did not do so they might have a retention problem. Alternatively, training was sometimes seen as something individuals did in their own time. This even applied to training organised in the workplace: 'the only time radiographers seem to be able to do CPD is around lunch hour and after 5 pm (whilst other services might close down for CPD).' Further even where people have undertaken substantive CPD courses (including gaining postgraduate qualifications) in their own time, they may still be paid less than those who have not completed postgraduate training. There were also complaints that they do not get any time for CPD involving reflection on practice. Initial training in the operation of new equipment for the first practitioners to use the equipment is usually quite good. Thereafter an experienced practitioner might train others in a way that cascades 'effective ways of working.'

The radiographers were aware that other hospitals had used access to further training as a means to encourage applicants, and the possibilities of promotion as extended scope practitioners (promotion that involves continuing in practice rather than moving into management) as an aid to retention of staff. There may be an irony here in that managers may feel that they cannot sustain mass training efforts, while at the same time the radiographers were pointing out that 'some people dislike having to qualify further.' This is similar to the mixed attitudes towards appraisal. For some they feel uneasy because 'they do not want to move on, they are happy to stay where they are' but that appraisal is structured towards development being 'normal'. On the other hand, if the appraisal process identifies training requirements which then cannot be met this too is unsatisfactory. Both appraisal and training were seen as needing to accommodate both those seeking opportunities for progression and those with a commitment to their current role. Particularly, as over a working career most people are likely to favour continuity or change at different times, depending upon a range of personal, organisational and career goals.

Radiographers stressed that training and CPD were often squeezed out in practice despite being regarded as important or even vital by managers, because of lack of resources. A training budget might not exist at all or might need to be used for other purposes. It should be noted that part of the success of the pilot project on skill mix was attributed to the provision of back-fill funds for those on training. Lack of training and CPD leads to a lower quality of service and retention problems as staff seek better training opportunities in the private sector. The loss of staff may, in turn, prompt the recruitment of expensive agency staff, thus exacerbating the financial situation of the department. On the other hand, promising training opportunities was used as a means of retaining or recruiting staff in these or other hospitals, but then the pressure is on the delivery. Training or CPD, even workplace training, sometimes needed to be undertaken in staff's own time. But those who completed substantive CPD courses in their leisure time were discontented when it had not entailed a salary increase to a level enjoyed by others without such qualifications. Radiographers argued that appraisals needed to accommodate the needs of staff committed to their current role and those seeking opportunities for progression. But when training needs were identified in the course of the appraisal, failed delivery caused discontent.

## **5. The challenge of learning while working for newly qualified radiographers**

The above commentary demonstrates radiography is a profession under pressure and this in turn creates particular challenges for the newly qualified. 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 for professionals working in hospitals. Newly qualified radiographers still have much to learn. In order to make a successful transition to being an experienced practitioner a novice needs to negotiate five major learning challenges, involving:

- Successful engagement with major (and changing) work activities;
- Successful interaction with others;
- Successful learning from experience;
- Commitment to continuing professional development;
- Coping with the demands for flexibility, transferability and work intensification in the workplace.



The context in which the work takes place, a hospital department with demanding performance targets, itself acts to reinforce some tensions between working and learning. For example, 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; caseload management; and departmental management. This means that in any particular setting there is not a single model of best practice as to how health care professionals should act. Rather hospital departments have to make contextualised decisions about how best to optimise service delivery and skill development in the settings in which their practice is grounded (Brown et al, 2000).

## **5.1 Successful engagement with major (and changing) work activities**

### ***Engagement with core professional tasks***

The most obvious learning challenges facing newly qualified radiographers relate to the successful completion of their core professional tasks in practice. Considerable learning for newly qualified radiographers comes from their engagement with work as they move towards becoming experienced practitioners in their own right. The challenge of work itself can lead to significant learning, particularly for the newly qualified. Radiographers need to manage patients under varying circumstances and work as part of a team. Technical and professional knowledge, interpersonal skills and sensitivity are all required. The increased sensitivity to the need to recognise individual differences between patients means that skills of patient management have increasingly come to the fore. Additionally, the work of radiographers is becoming more complex, with the technical and IT skill demands increasing and the underpinning knowledge base also expanding. Skills associated with intra-hospital team working are becoming more important and this can be a particularly sensitive issue for radiographers, as this could be seen to present a challenge to existing hierarchies, as it requires doctors and consultants to acknowledge the expertise of others. This was illustrated by Eraut, Alderton, Cole and Senker (1998b) who describe a case where the sensitivities were such that radiographers “put red dots on pictures to casualty officers where they had noticed something broken, thus contributing to diagnoses by often relatively inexperienced doctors without trespassing on their traditional territory” (p.44).

As well as learning from job rotation the newly qualified need progressive exposure to more complex clinical cases. Such learning though often needs to be supported by a process of active reflection and review whereby it is possible to discuss and share with others ideas about the most effective ways to tackle a range of problems in practice. This exposure to a variety of cases and contexts facilitates learning through observation and listening as well as from direct experience (Eraut et al, 1998b). Indeed, where the more complex cases are initially handled by more experienced colleagues this is a classic form of learning through legitimate peripheral participation (Lave and Wenger, 1991).

Over time, as they get more experienced, practitioners will be expected to change how they work, for example in relation to how they carry out their initial diagnoses. One characteristic of effective performance of experienced physiotherapists and radiographers is that, like other professionals, they have learned to make some decisions rapidly and intuitively, while others require much more deliberation, analysis and discussion (Eraut, 2000). 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 in a service under pressure 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 could be adversely affected to some degree.

### ***Engagement with changing ways of working***

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 and the boundaries of responsibilities between radiographers and consultants. Where such changes were implemented all staff had to cope with changed patterns of working. For example, 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. These types of changes also reinforced the need for training and support for intra-team working. The demand for more flexible working had also led to the active consideration of skill mixing, particularly in the 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. 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 time intensive cases (Brown et al, 2000).

## **5.2 Successful interaction with others**

The newly qualified radiographer has to learn to be able to sustain relationships with a range of people, including being able to develop and sustain therapeutic caring relationships with patients. The newly qualified also need to be able to work with colleagues, not least in order that they are able to learn from more experienced colleagues. That this can come through both from watching them in action and through discussions is apparent, although Eraut et al (1998b) point out that the extent of such support varies between different communities of practice, with feedback from colleagues being a particularly prominent feature of the work of diagnostic radiographers. Professionals then learn from each other, and the educative function may sometimes be explicit as when radiography staff 'educate' each other in the most effective way to use new equipment. It is also common for the newly qualified to learn from colleagues in a variety of less formal ways too.

Morrison (1992) points out that those working in the caring professions also have to deal with issues of emotional involvement, stress and work constraints. This 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 (Brown et al, 2000). Taylor (1992) argues that such an approach is vital, as those working in the caring professions need to relate to each other as people, not just in terms of their professional roles. They need to be regarded as people who share the everyday common human qualities of their patients. The more departments become over-loaded the more important it is for colleagues to feel supported, and without that support retention of staff becomes much harder to achieve.

Newly qualified staff have to learn to work with and from other staff too, including other professionals. The ability to communicate effectively across services and disciplines has 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. In some cases organisation-wide concerns could impact upon skill development of newly qualified staff at departmental level, as where a hospital gave particular attention to improving intra-team communication (Brown et al, 2000). 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 have 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 learning and development of radiographers in isolation, but rather focusing upon the skill utilisation of the team as a whole if they are to deliver an efficient, high quality service. Thus 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 skill development was particularly important in achieving this flexible response.

Newly qualified health care professionals are likely to make a successful transition to becoming experienced practitioners if they are members of a number of networks. 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 (Brown et al, 2000). At departmental level it is particularly important to ensure that newly qualified practitioners are tied into such networks. The learning of newly trained practitioners was also 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 (such discussions were often held after work and/or in settings away from work).

It is important to acknowledge the role of informal relationships as a means of supporting learning and not to focus solely upon the successful interaction with others in formal settings. Although learning through personal networks is important for less and more experienced health professionals alike (Eraut et al, 1998b), the former also have to learn who holds different types of knowledge, how to access it and so on. One key link was often colleagues with whom an individual had trained and who were now working in different hospitals. Such contacts could be important for the newly qualified who did not always initially at least wish to share some of their doubts about aspects of their own work with their new colleagues. Personal networks could also lead to access to required knowledge through chains of contacts.

### **5.3 Successful learning from experience**

One line of argument sometimes advanced by managers was that the move to graduate entry had intensified the requirement for further learning while working after formal qualification. The issue was that new entrants might have insufficient experience of exercising the *practical*

skills they need to do the work, resulting in the need for very intensive 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 (Brown et al, 2000). Skill 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 (Brown et al, 2000). 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, and that this makes their subsequent learning from experience even more vital.

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 they recognise 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.

Learning from their own experience is important for the newly qualified, but so is learning from the experience of others. Newly qualified staff needs opportunities to discuss and practise thinking about complex cases handled by their more experienced colleagues. This approach to seeking to tackle complexity through interpretation and a shared search for understanding gets to the heart of "the discursive nature of professional practice" (Webb, 1996, p.111). 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).

The value of extended dialogue to 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. This extended dialogue underlines the social nature of learning and working and should, from an activity theory perspective, enable practice in the department (or activity system) to be transformed. By this means both internalisation (socialisation of new staff) and externalisation (developments of new reactions within the activity system) of learning would be facilitated (Engeström, 1992).

Various forms of organised learning support can be used to facilitate the learning from experience of the newly qualified. For example, rotation, clinical supervision and mentoring could all be organised more or less formally (Eraut et al, 1998b). The mentor could be just offering support on a serendipitous basis or taking great pains, as in the case of a more experienced radiographer offering support to a less experienced colleague:

*“this woman goes out of her way to show her relevant things that come up when she’s not there, shows her lab reports on mammograms she has done, etc, thus building up her expertise more quickly” (p.40).*

The challenge facing hospital departments therefore was how best they could support the learning while working of their newly qualified radiographers. Learning could take place as a result of cascading experience, particularly where increased multi-disciplinary work and teamworking placed greater communication demands on staff in addition to those required for dealing with patients. For example, in a radiology department, 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 (Brown et al, 2000).

One way learning from experience has become more formalised is through the increasing expectation that health care professionals will engage with their work in a way that makes greater use of formal evidence than in the past. The call for evidence-based practice to be used 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) (Gray, 1997; Greenhalgh, 1997; Sackett, Richardson, Rosenberg and Haynes, 1997). In this area of learning through evidence provided by research and examples of good practice newly qualified (graduate) staff sometimes had an advantage over some less qualified but more experienced colleagues. This was because of the shift of emphasis in initial training towards understanding the rationale for evidence-based practice. Some departments found particular attention and support needed to be given to those practitioners who did not possess a degree or equivalent qualifications and were less likely to be familiar with research (Brown et al, 2000). Newly qualified staff were likely to be familiar with models of reflective practice. However, 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. Newly qualified staff needed time to reflect with others on their practice at a time when all staff were often feeling stretched by demands on their time in practice.

#### **5.4 Commitment to continuing professional development**

In health care continuing professional development (CPD) is often specified as a requirement of professional practice. In this context, however, it should be remembered that formal education and training provide only a small part of what is learned at work by professional staff (Eraut, Alderton, Cole and Senker, 1999). Even where hospitals had the capacity to provide formal training, there was sometimes a reluctance to release staff when departments were under-strength and working at full stretch and this increased the 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. Hence 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 (Brown et al, 2000).

The importance of CPD is therefore officially recognised by hospitals, but the commitment may be compromised in practice. However, 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 services. Budgetary constraints as well as quality and efficiency targets in meeting patient demand sometimes resulted in the 'rationing' of training particularly among intermediate level staff (Brown et al, 2000). 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.

Formal CPD may also play a role in an individual learning additional specialist skills where these were not fully covered initial training. For example, specialist skills were required for work in specialisms, such as mammography, ultrasonography, skeletal reporting and paediatrics in radiography. In addition, in some areas, such as paediatric radiography, staff needed to have two years general radiography experience and were only recruited at senior level. 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 opportunities for career development and this acted as an incentive to undertake further CPD. Responses to recruitment difficulties sometimes included the use of in-house training or the funding of courses in particular specialist areas.

An individual's commitment to CPD, however, should not just involve participation in formal staff development, as practitioners are also expected to engage in their own self-directed learning. As Eraut et al (1998b) point out this should involve individuals in an active role in finding out on their own initiative what they need to know. This could include learning through reading papers, journal articles and case histories.

## **5.5 Coping with the demands for flexibility, transferability and work intensification in the workplace**

The hallmark of successful professional practice is the ability to draw 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 individuals may come up with very different ways of responding to the demands for flexibility, transferability and work intensification in the workplace. Indeed one way forward for the newly qualified and experienced practitioners alike may be to review the different ways individual 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.

In order to respond effectively to the demands for flexibility, transferability and work intensification in the workplace requires a collective as well as an individual response. Departments need a sense of shared purpose, and this highlights the social nature of learning and working which should enable practice in the department to be transformed. However, departments as well as individuals are constrained in how they can respond, because of the need to pay attention to institutional performance indicators, which themselves were often explicitly linked to targets set by government. All staff seemed well aware of the need to pay

attention to performance targets outlined in departmental plans for service delivery (patient throughput; waiting lists; waiting times and so on). All departments actively reviewed their performance against such targets, and particularly where targets were based upon per capita funding, newly qualified staff could feel under pressure to reach experienced worker standards as quickly as possible.

The most obvious manifestation of work intensification came from the rapidly increasing demand for some radiography services. Active management at departmental level was required to cope with this increase in demand. Some departments extended opening hours and introduced more flexible patterns of working, although these goals could sometimes conflict. A balance also had to be negotiated between handling demands for greater efficiency and improved quality. The consequences of the increasing demand for services for newly qualified staff were both direct and indirect. The direct consequences were reflected in their own increased workload and the indirect consequences came from less time available for some senior staff to devote to training because of the increased time they spent on departmental management responsibilities. For these reasons caseload management and time management have become much more important at the individual level and newly qualified staff in particular may require support to do this effectively. It may also be that the increasing drive for efficiency and performance within health care systems may limit the time practitioners for activities that convey caring rather than just competence.

Besides general problems some departments were faced with particular pressures because patterns of individual career development and departmental recruitment practices meant that they had large numbers of relatively inexperienced practitioners in some services. What is particularly apparent here is that support for the learning of newly qualified radiographers at work needs to be placed in the broader context of work in their departments (or across departments) as a whole. Using an activity theory perspective, the focus of learning in the department as a whole should alternate between socialisation of staff and framing of new approaches to developments at a departmental level, involving the continuing switching between the internalisation and externalisation functions of learning (Engeström, 1992).

At a departmental level Brown et al (2000) identified several key factors that had enabled departments to battle successfully with the considerable constraints and challenges they faced. These were:

- 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 (Brown et al, 2000, p.32).

## **5.6 Concluding discussion**

How best to support the learning of newly qualified staff needs to be informed by a contextualised understanding of what it is that the newly qualified have to learn in an environment characterised by flexibility, transferability and work intensification. The context is important because different configurations of staff may radically change the opportunities

for different forms of learning. For example, those departments that regularly recruit newly qualified staff (because of high staff turnover coupled with a lack of experienced applicants) will probably need to have in place more formal systems of mentoring, supervision or other support. This will be required in order that the less experienced have opportunities to discuss and practise thinking about complex cases handled by their more experienced colleagues. This may be less vital in those departments where there is a more even balance of more and less experienced staff and as a consequence where there may be more informal opportunities for such discussions to take place. The newly qualified need to practise using their professional judgement, not least in the ability to balance competing demands and the pressures of time. Active reflection and review on different ways practitioners seek to tackle their workload as a whole may be one means by which it is possible for practitioners to discuss and share ideas about the most effective ways to tackle a range of problems in practice.

Traditionally the focus of the continuing development of professional competence 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) competencies necessary to successful performance in the organisation; and the social-communicative competencies relating to the department, team or professional group's practical environment are becoming even more important than they were in the past. These, however, may receive comparatively little attention either in formal training or informally during learning while working. This is despite work intensification and the sheer volume of work to be completed resulting in organisational or departmental difficulties becoming more intense. Radiographers 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.

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