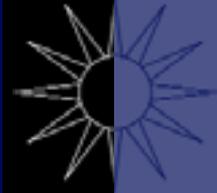


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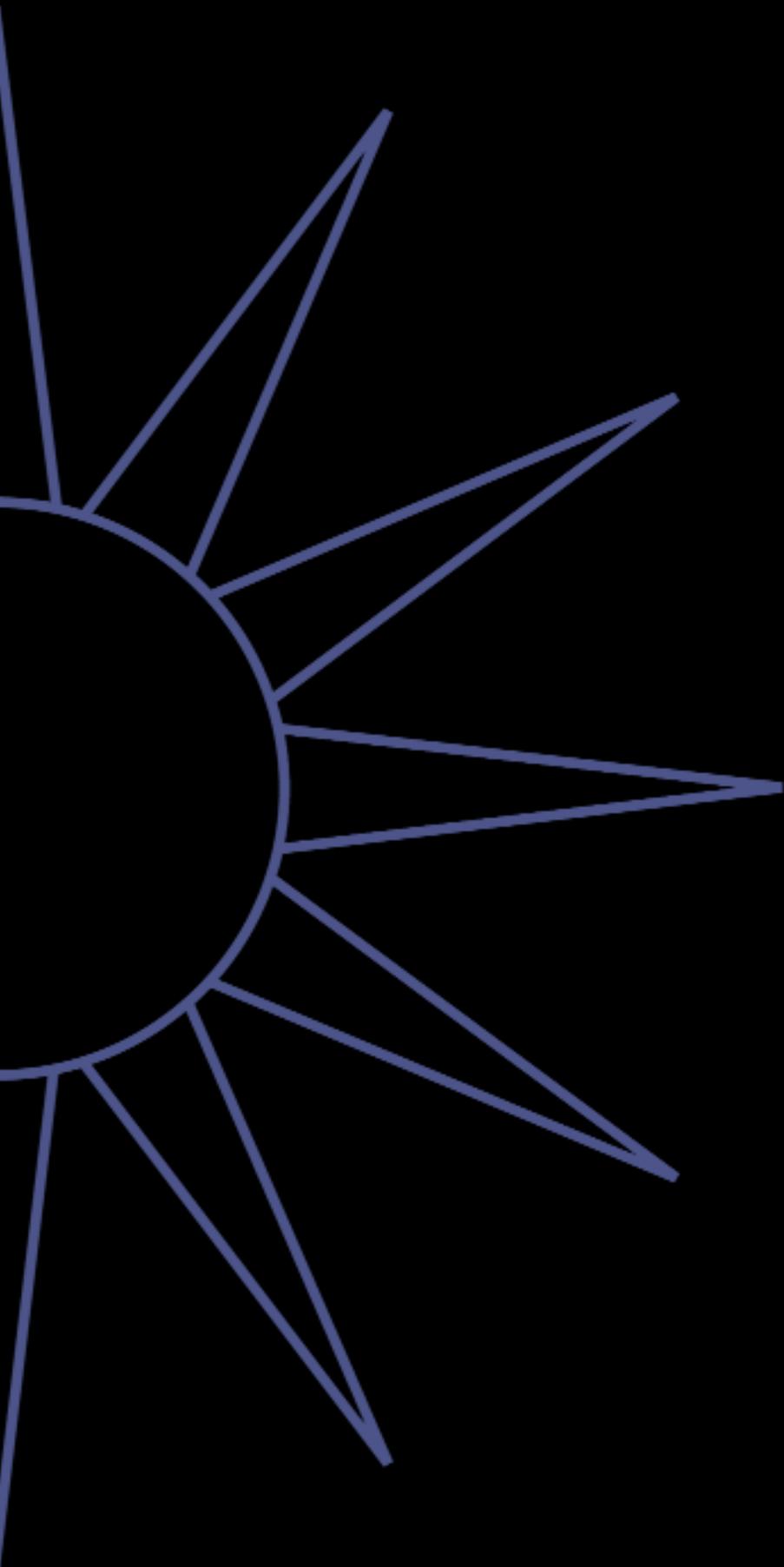


CLINICAL IMAGING  
RADIOTHERAPY AND  
ONCOLOGY

**Information  
Management and  
Technology:  
Implications for the  
Radiography  
Workforce**

THE SOCIETY OF  
RADIOGRAPHERS





**Information Management and Technology:  
Implications for the Radiography Workforce**

Society of Radiographers' Responsible Officer:  
**Sue Shelley**

**January 2006  
First edition  
ISBN 1 871101 31 X**

**£15 to SCoR members  
£25 non-members**

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## Foreword and acknowledgements

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The Society and College of Radiographers (SCoR) is pleased to publish this information and guidance document. It is written at a time when the healthcare environment is rapidly changing and acknowledges that developments in the field of information management and technology (IM&T) are at different stages across the four countries of the UK.

However, this publication for the radiography profession is timely, given the political importance that has been given to the roll out of the National Programme for Information Technology (NPfIT) in England (now Connecting for Health), National eHealth/IMT Strategy for Scotland, the ICT Strategy for Northern Ireland and the readiness programme for Informing Healthcare in Wales.

The impact of the above programmes will be wide ranging for all healthcare staff but in particular for the radiography workforce in relation to the inclusion of Picture Archiving and Communication Systems (PACS) and record and verification systems, combined with modern planning systems and Intensity Modulated Radiation Therapy (IMRT) services.

The deployment of these national programmes will drive change related to whole systems healthcare delivery models, enabling rapid links between primary care, the acute sector and independent providers, where applicable. Engagement of professionals to deliver this agenda will be paramount to the success of the programmes.

As such, radiographers must lead the way in developing and maintaining skills and competences to ensure this technology is used appropriately. Training standards should be agreed and implemented at all levels of the workforce.

Radiographers also need to be able to discuss with clinical colleagues future IM&T needs and developments and influence expenditure on information management and technology. IM&T supports clinical governance and the development of evidence based practice; it will enable radiographers to actively contribute to and use the electronic library for health, ensuring that they provide the best possible care for their patients and clients.

It is recognised that none of the above will occur unless there is investment in workforce development. This is essential to secure the skills necessary to use IM&T effectively, now and into the future.

*The Society and College of Radiographers is grateful to all those who contributed to this information and guidance document, especially Tony Corkett, PACS Programme Director for Kent and Medway SHA for his input and to Keith Goldsworthy, Moira Croitty, Noelle Skivington and all members of the SCoR IM&T Group.*

## **Context for the IM&T guidance document: Implications for the Radiography Workforce**

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Irrespective of the four home countries health departments' strategies on information management and technology, radiography services will be required to evolve to meet demands that are centred on the needs of patients. Such redevelopment of radiography services will be more responsive with modern, flexible systems, such as Picture Archiving and Communications Systems (PACS) and technology that facilitate remote consultations for cancer patients in place.

Once investment in clinical information systems has been made, it is relatively easy and cost effective to achieve the change and developments needed for imaging and oncology services to be delivered more locally where appropriate.

However, to undertake whole scale redesign of services and to plan for the future of clinical imaging and radiotherapy and oncology services robust data is required. This type of data will assist managers in informing commissioners and will help ensure good use of resources and greater understanding of what is required for the future.

This document aims to distil the key information related to this wide ranging agenda and focus on that which is relevant to the whole radiography profession. It is divided into five sections that address the current issues for radiographers and future directions.

## 1.0 Policy context

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- 1.1 Each of the home countries has outlined its vision and strategic direction for centralised information strategies (see references). Within this plethora of documents, key themes have emerged relating to electronic patient records and the technologies to support ehealth, combined with pressures within the service to realise the benefits offered by this ever-evolving sphere to improve NHS capacity.
- 1.1.1 In 2002 the Medical Devices Agency (now Medicines & Healthcare Regulatory Agency, MHRA) stated, 'For radiography services to change and support this new model (of care) requires an efficient use of technology to capture, store and distribute the medical images. PACS is the only option open to radiology departments to deliver this change.'

### 1.2 Radiography

- 1.2.1 As outlined above, there are many external policy drivers that set the context and direction of travel for radiography, both locally and nationally. It is important that radiographers are not only aware of the strategic direction for the services that they work in, but also are prepared to lead developmental changes in their practice. It follows that this depends upon them having the pre-requisite skills and using information intelligently.
- 1.2.2 In addition to radiographers using the technologically driven image acquisition or treatment equipment, PACS, Hospital Information Systems (HIS), Radiology Information Systems (RIS), electronic requests, prescribing, ebooking, email and computed verification systems are all integral to a radiographer's work.
- 1.2.3 Radiographers are required to engage with information technology at many levels:
- Clinical systems eg Radiotherapy planning systems, RIS, PACS, HIS;
  - Clinical support systems, eg audit, governance, research and evidence based practice, electronic requests, prescribing, ebooking, computed verification systems;
  - General IT systems, eg word processing, email and internet usage.
- 1.2.4 Use of all these elements can be expected to increase significantly in future years driven by factors such as government policy, changes in working practices and professional requirements, as well as by public expectation in society as a whole.
- 1.2.5 For the large numbers of radiographers working within the NHS, as well as diagnostic and therapy specific systems, others such as order, communication and scheduling systems will have clear and direct effects, with systems such as pharmacy and operating theatre management having a more indirect effect. Radiographic input into the design of all of these systems is essential if they are to reflect and enhance the work of radiographers, and the care of their patients.
- 1.2.6 The increasing integration of information technology within the healthcare sector, whilst conferring significant benefits, also increases interdependencies between healthcare professionals. In a healthcare environment dependent on shared information, a clear understanding of issues such as data codes, integrity and quality are crucial to safe practice.
- 1.2.7 This view is reflected in the SCoR's publication, *Education and Professional Development: Moving Ahead* (2003), which refers to the need for radiographers to engage with the health informatics agenda and information technology and integrate it into daily clinical practice. However, for these skills to be used appropriately to enhance patient care, radiographers will need additional support and on-going training.

### 1.3 Research evidence related to benefits of IM&T in Radiography

- 1.3.1 Research published into clinical information systems for radiography clearly demonstrates the benefits delivered by PACS. PACS, however, can only deliver benefits when it is part of a larger clinical information system including RIS and other hospital systems. Within secondary care the

early research by Weatherburn et al from Brunel University (1999a, 1999b, 2000 & 2001) on the PACS installations at Hammersmith Hospital and other UK sites found some important early benefits, including reduced need for repeat radiographic examinations.

- 1.3.2 Bauman & Gell (2000) reported that user expectations were met in 81 per cent of cases and that 97 per cent of respondents (177 hospitals) would recommend the system to other clinicians. Siegel (1998) found that PACS decreased costs and the system made radiography departments more competitive for obtaining referrals (Strickland, 1999).
- 1.3.3 Decreased delays in obtaining radiology image information in intensive care units and improved unit efficiency were found by Redfern et al, (2000) following the introduction of PACS. Kundel et al (1996) found an improvement in delivery of images to end-users, and a reduction in CT examination time was reported by Reiner et al in 1998.
- 1.3.4 By linking PACS and speech recognition software, Pavlicek et al, (1999) reported the following findings: decreased rate of repeat radiographs, improved image quality, decreased time between examination and availability for reporting, ad-hoc availability of images, decreased time before clinicians view results, and increased capacity of examinations per room.
- 1.3.5 Pilling (2002), reported the following benefits were achieved following the introduction of PACS at Norfolk and Norwich hospital:
  - Many fewer repeat radiographs;
  - Reduced radiation exposure;
  - No lost images;
  - Images available rapidly in clinics and wards;
  - Reports available alongside images;
  - Easy image manipulation and comparison.
- 1.3.6 Benefits to patients included:
  - Faster plain radiography examination time;
  - Reduced waiting times for radiography;
  - Elimination of waiting time due to searching for images;
  - Ability to review radiographs with clinicians on computer screens.
- 1.3.7 Benefits for individual staff included:
  - Time saved and frustration eliminated because images cannot be mislaid;
  - Ability to discuss images with radiologists over the phone, without having to visit radiology;
  - Faster reporting times achieved;
  - Increased efficiency and reduced frustration for radiographers;
  - Ward clerks and receptionists no longer have to search for or transport x-ray packets;
  - Junior doctors no longer have to chase x-rays and reports;
  - Much reduced need to store, track and move heavy x-ray packets.
- 1.3.8 Although most of the articles and papers reflect the introduction of PACS, the deployment of this technology alone cannot deliver the full scope of benefits. This can only be achieved with the full use of all clinical information systems by appropriately trained staff.
- 1.3.9 Similarly, in radiotherapy, in the absence of a national cancer IT system much of the good work outlined above is currently done in isolation. Additionally cancer services have often scored poorly on communication with patients. This must change and IM&T use by radiographers is the key to achieve the benefits and satisfy patients' needs.
- 1.3.10 Recent work that has been funded by the Department of Health for England is reviewing the use of information systems that will harvest information from treatment units and provide robust data to inform service needs and priorities. Once again radiography is leading the way with this work which has the potential to be rolled out to inform cancer service planning for chemotherapy and surgical interventions.

## 2.0 Who needs what information?

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2.1 Radiographers are not the only consumers of information and as such it is important to ensure that other users for example patients, managers and commissioners are considered integral to the information technology strategy.

### 2.2 Patients

2.2.1 The National Audit Office (England) recommends that:

*'Information should be made available for the benefit of local communities to show service improvements intended to address poor cancer outcomes in their locality.'*

(National Audit Office, 2004, p.7)

2.2.2 Patients also require information on local service provision so that they are able to make informed choices, access appointments quickly and have their health choices underpinned by appropriate and timely patient information.

2.3.3 NPfIT (England) (Now Connecting for Health) has embarked on procuring IM&T based solutions to improve patient care centred on the

- NHS Patient Care Records Service
- Choose and Book
- E-Prescribing

It follows that staff working in or with NHS organisations will need to be conversant with these terms to assist patients in understanding the benefits.

### 2.3 Radiographers

2.3.1 There are many examples of how changes in service delivery models combined with improved communications systems have impacted in radiography. For example:

- Increases to the age range of the screened population in mammography leads to a general increase in image production. Again, once new clinical information systems such as computed radiography systems and PACS have been installed, such increases are easier and more cost effective to manage as compared with, in the past, increasing volumes of films and processing. New technologies are able to support mammography services that are deployed remote from the base department.
- Training to support reporting roles undertaken by radiographers is underpinned by knowledge of reporting combined with use of equipment. Use of voice activated software would further facilitate reporting by radiographers. Investment in such developments must be incorporated into the core business of radiography departments.
- Access to computers that facilitate on-line learning or Internet sources of information is essential and radiographers must be proactive in requesting and using these facilities. Additional benefits will be realised for patients by radiographers in terms of effective evidence based care and clinical governance.
- Audit of practice will become mainstream and local education and training will be supported by ready access to best examples of images and conditions.
- Clinical information systems such as PACS and RIS provide access to timely, high quality, and comprehensive data that can be used to support and enhance the clinical governance agenda welcomed by the Healthcare Commission.
- Reduction in the turnaround times for diagnostic imaging procedures and, as a result, improving capacity and reducing waiting times, where required.

- In cancer and oncology care, multi-disciplinary team (MDT) working has long been promoted. With recognised staff shortages, innovative ways of working, for example clinical networks, must be further developed. Aside from the clinical and accreditation benefits there are considerable savings in staff travel time equivalent to one to two sessions a week in some areas.
- Some Cancer Networks hold joint clinics between oncologists and generalists and believe that a community-wide PACS would enable easy transfer of diagnostic quality images between sites, and common access to specialists by electronic patient referrals between sites. These two concepts are at the core of the National Cancer Plan for England.
- The National Cancer Plan for England also includes a partnership with Macmillan Cancer Relief to establish a lead clinician for cancer in every PCT. Implementation of community-wide PACS and RIS services would support the eventual full integration of the primary care lead with the rest of the team, enabling a shift of some care from hospital into community and giving community clinicians readier access to specialist support and records.

## **2.4 Managers**

2.4.1 For managers' efficiency gains such as those outlined above will require all the functions of hospitals to work more quickly, effectively and in a totally integrated manner. As part of the overall programme to meet these targets, improvements will be required in the throughput of radiography services and the availability and timeliness of images for diagnosis and treatment. Consequently, this impacts on patients' treatment regimes and will assist in meeting more locally driven outcome measures.

## **2.5 Commissioners**

- Approximately 96 per cent of acute admissions rely on radiographic input to manage their care and about 50 per cent of all cancer patients are treated by therapeutic radiographers. Commissioners are acknowledging the pressures brought to bear upon radiography and radiotherapy patients and welcome initiatives that allow for the reduction in waiting times for diagnosis and access to treatment.
- However, there is still pressure on diagnostic services particularly and imaging services will be required to support re-profiled models of healthcare that span increasingly large geographies and larger numbers of physical locations. Communication at a distance is therefore vital and will offer further development opportunities for radiographers to lead services in more locations, with the assurance of support from remote colleagues.
- Currently there are many radiotherapy centres which have problems with waiting times. Targets for the reduction of cancer waits, combined with regular capacity and demand work, new ways of working and turnover in the workforce are particular challenges for radiotherapy and oncology managers.

## 3.0 Governance and education requirements

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- 3.1 For all staff there is a need to understand their roles and responsibilities with regard to information governance. There are some guiding principles that underpin radiographer use of information for health purposes and these are outlined in the Data Protection Act (1998) and The Statements for Professional Conduct (2002, Revised 2004) relating to confidentiality and the Standards of Conduct, Performance and Ethics (2004).

### 3.2 Data Protection Act 1998

- 3.2.1 The Data Protection Act came into force on 1 March 2000, superseding the 1984 Act. The Information Commissioner reporting directly to the the UK Parliament governs it. The Information Commissioner can take enforcement action against an organisation breaching the Act. Furthermore, failure to comply with the Act can result in the Information Commissioner prosecuting both the organisation and individual employees.
- 3.2.2 The Act contains eight principles of good information handling which must be adhered to when processing personal or sensitive personal data. Personal data is information, facts or opinions, which relate to and identify a living individual. Sensitive personal data pertains to racial or ethnic origin; religious beliefs; trade union membership, physical or mental health or sexual life; political opinions; and criminal offences. Additionally, the Act applies to sensitive personal data recorded electronically or on paper and held in a structured filing system.

### 3.3 Freedom of Information Act 2000

- 3.3.1 The Freedom of Information Act 2000 and the Freedom of Information (Scotland) Act 2002 requires public authorities to specify the kinds of information they publish, how it is made available, and whether it is available free of charge or upon payment. The Act must be fully implemented across the public sector by 30 November 2005. The Department of Health (England) has outlined an implementation timetable to achieve the requirements by the November deadline.
- 3.3.2 Responsibility for overseeing the operation of the Act rests with the Information Commissioner who is an independent public official responsible directly to Parliament. As well as approving Publication Schemes and promoting compliance with the Act, the Information Commissioner has powers of enforcement. In Scotland, this oversight rests with the Scottish Information Commissioner's Office.

### 3.4 Patient Confidentiality

- 3.4.1 As outlined within Statement 1 of the Statements for Professional Conduct (2002, Revised 2004):

*'Radiographers are ethically and legally obliged to protect the confidentiality and security of patient information acquired through their professional duties, except where there is legal requirement to do otherwise.'*

### 3.5 Patient Information

- 3.5.1 In relation to providing patients with information concerning their care, patients must be presented with sufficient information in a manner that is user-friendly, and in a form they can understand and that is appropriate for the examination or treatment to be undertaken. The patient must be given adequate opportunity to discuss any questions/concerns they have about their investigation/treatment in a non-threatening environment, which permits respect of the patient's dignity. Patient information forms part of the consent process. The Society and College of Radiographers provides advice and guidance on consent

(*Statements for Professional Conduct 2002*, revised 2004) and additional advice will be published during 2006.

Radiographers may discuss directly with the patient the outcomes of their investigation/treatment, in accordance with local procedures.

### **3.6 Security and privacy**

- 3.6.1 All radiographers will be aware of their dependency upon information management and technology to support their practice and as such they have a duty to ensure that they maintain the security and privacy of information that they use in this context. Electronic information is managed by legitimate access and passwords. It is the radiographers' responsibility to ensure that passwords are not disclosed and that inadvertent use or access are minimised by remaining vigilant at all times.

### **3.7 Data quality**

- 3.7.1 Set against this backdrop of ever-increasing use of information and technology, radiographers must further develop their skills. Radiographers are responsible for guaranteeing the integrity of the data that they input into both clinical and administration systems, to ensure the delivery and continuity of high quality healthcare for patients and clients across the health economy.
- 3.7.2 Additionally, service managers must work with the Caldicott guardian to ensure compliance with data protection. Regular audits on how clinical imaging and radiotherapy and oncology departments are complying need to be undertaken.

### **3.8 Radiography coding systems**

- 3.8.1 The NHS Information Authority (England) has undertaken work on coding systems for radiography. This information is accessible from <http://www.connectingforhealth.nhs.uk/> Similar work is also on-going in Scotland.
- 3.8.2 Within radiotherapy all treatment procedures are coded within a national system called the Healthcare Resource Groups (HRG). Data harvesting has begun in all radiotherapy and oncology departments. This will prove to be a powerful tool to forecast treatment regime trends and service requirements for radiotherapy, oncology and other therapeutic interventions in the future. Therapeutic radiographers need to embrace the use of these systems and integrate them into their practice.

### **3.9 Ionising Radiation (Medical Exposure) Regulations 2000**

Radiographers' intimate knowledge of radiation protection allows them to make informed judgements about justification for ionising radiation examinations and treatments. It follows that radiographers are ideally positioned to enact IR(ME) Regulations 6, that requires justification of an examination or treatment. As such, they must ensure that any electronic data is from a legitimate source and the clinical information should be accurate. Importantly for example, the use of the word 'routine' in clinical details is unacceptable in the IR (ME) Regulations 6 and must lead to automatic rejection of this type of request. This is of the utmost importance within electronic referral pathway systems.

### **3.10 Prescribing by radiographers**

- 3.10.1 As prescribing for radiographers is implemented, radiographers will need to access the technology that supports and underpins electronic prescribing. They will need to develop competences to facilitate electronic prescribing.

### **3.11 Audit**

3.11.1 Radiotherapy departments are subject to annual audit of processes and procedures and so have an environment that is supportive of audit. Clinical governance arrangements for NHS organisations will support further development of audit of the service and radiographers must engage with clinical audit supported by appropriate information systems.

### **3.12 Use of images for education and training purposes**

3.12.1 It is recommended that anonymised images are used for education and teaching purposes, as it is possible to use this type of data with fewer constraints. This said, the difficulty that arises is when patients may be identified due to the uniqueness of their condition or because factors about them are in the public domain. These facts may be viewed together with their images and so their identity is revealed. In such cases explicit consent from the patient must be obtained prior to using their images for education and training purposes.

3.12.2 Additionally, patient information disclosed within, for example, a multidisciplinary team (MDT) meeting should be discussed within those confines on a need to know basis that is related to future or on-going care or treatment of the patient only.

### **3.13 Home computing licences**

3.13.1 Lynn Grimes, acting director of business strategy and performance for the NHS Information Authority, stated "training in IT skills is crucial for all NHS staff and will be essential for staff to take advantage of the new IT and information systems being implemented in the NHS".

3.13.2 She added: "The availability of low cost home licences for NHS staff is part of the NHS enterprise agreement with Microsoft. This is provided at no additional cost to the NHS and offers NHS staff a great opportunity to make use of the software products they use at work."

### **3.14 Health informatics: pre-registration education and training programmes**

3.14.1 In order to equip the future radiography workforce with the necessary skills to be able to work in an environment that is becoming increasingly dependent upon health informatics and information technology, there needs to be greater emphasis placed upon embedding health informatics into the pre-registration radiography programmes. This should also be replicated within training programmes for assistant practitioners and radiography support workers. This will help ensure that staff have the necessary education and skills to underpin clinical practice and use of modern digital image capture equipment and post processing such as PACS, Digital Radiography (DR) and electronic patient information.

3.14.2 Approval processes must ensure that IM&T is embedded within curricular and that employers express the value of skills in IM&T as a first post competence.

3.14.3 In the short-term, the SCoR expects educational institutions and healthcare organisations where radiography staff are deployed to move towards ensuring that appropriate education and training is offered to the radiography community to confer competence in IM&T.

### **3.15 Health informatics: Post graduate education and training programmes**

3.15.1 Post-graduate programmes should have health informatics embedded within modules, with greater access to health informatics-specific modules. However, it is recognised that for current staff some catch-up is needed at the post-registration level in the short to medium term.

- 3.15.2 Accordingly, the SCoR expects local and national education and training providers to offer courses that support the radiography team in achieving the relevant competences in IM&T for their role. Some guidance is offered in the SCoR's Curriculum Framework for Radiography published in 2003.

### **3.16 European Computer Driving License (ECDL)**

- 3.16.1 By 2008, the SCoR expects that all pre-registration training programmes should enable students to attain the ECDL.  
Additionally, by 2007, all radiographers should have attained ECDL and have received other appropriate education and skills to underpin their use of modern digital image capture equipment and post processing such as PACS, DR, computed record and verification systems as appropriate to their role.

### **3.17 Collaboration between the SCoR and Higher Education Institutions (HEIs)**

- 3.17.1 Whilst it is recognised that the SCoR has close ties with HEIs and their radiography training programmes, these relationships need to be strengthened in order for the expectations, outlined within this document, to be realised.

### **3.18 The use of IM&T to enhance research and evidence based practice within the profession**

- 3.18.1 The Department of Health (1998, 2002) stressed the importance of acquiring skills and knowledge in IM&T in supporting the lifelong learning strategy for NHS staff. This would strengthen the development of evidence-based practice for radiographers, by encouraging and facilitating the use of a range of electronic sources to locate and use research evidence of best practice. Clinical Governance requires the demonstration of service improvement, achieved through the use of audit and research to complement clinical experience and judgement. Skills in the location and use of evidence and in data collection are essential in underpinning these aspirations for the service and the profession but, most importantly, they lead to better care.
- 3.18.2 The SCoR provides support for developing research and evidence based skills via its research website page and continuing professional development tool. Both are accessible through [www.sor.org](http://www.sor.org)
- 3.18.3 As part of its commitment to IM&T, the SCoR supports the view that further research should be undertaken to investigate the impact of IM&T on the profession and to investigate the skills and knowledge gap for radiographers if IM&T provision is to be implemented successfully.

## **4.0 The way forward**

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### **4.1 Future directions**

- 4.1.1 The SCoR believes that a comprehensive IM&T skills audit, specific to the radiography profession, should be undertaken to establish a baseline of IM&T competency. This data will assist in future planning for radiographers IM&T needs.

### **4.2 Provision of IM&T related education and training**

- 4.2.1 The SCoR recognises the importance of IM&T in radiography and will support this commitment by providing regular, ongoing workshops, seminars and education forums. This will be one of the key responsibilities of the SCoR IM&T Group.

### **4.3 The profile of IM&T within radiography**

- 4.3.1 The profile of IM&T in the profession has been boosted in recent years by the inclusion of the subject in the academic programme of UKRC. Radiographers have become more evident at an influential level in Government organisations charged with delivering the ambitious information communication and technology agenda, and, most recently with the appointment of a radiographer to oversee allied health professionals' (AHPs) clinical engagement for England.

### **4.4 Representation by radiographic staff on IM&T forums**

- 4.4.1 The SCoR holds the view that due to the unprecedented expansion of information technology and the impact that this will have upon Clinical Imaging and Radiotherapy & Oncology Departments, it is vital that radiographers are represented on relevant IM&T committees and other similar forums that exist within the health service.
- 4.4.2 The SCoR, wherever possible, seeks to exert influence on behalf of radiographers in relation to the design, specification and implementation of the clinical IM&T systems they use. Two main approaches are employed: via lobbying at a strategic level with, for example, national policy makers, and by enhancing its links through the IM&T group with other stakeholders in the community.
- 4.4.3 The importance of raising the profile should not be underestimated as radiographers are arguably the AHP group with the greatest daily contact and dependency on IM&T. As such they are well placed to become involved. The SCoR has been approached in the past to nominate individuals to act as AHP representatives to national committees and expects this trend to continue in the future. It is important that these opportunities are capitalised upon to influence manufacturers and suppliers of diagnostic and therapeutic equipment. The SCoR, through its IM&T group, continues to actively explore these opportunities.

### **4.5 IM&T 'champion'**

- 4.5.1 The SCoR will continue to raise the profile of IM&T within radiography and supports and welcomes the national development of a radiographer as the AHP IM&T 'champion' for England. It looks forward to similar roles being developed across the other three countries of the UK, and to the development of local IM&T champions.
- 4.5.2 The SCoR recognises the importance of these developments to the career aspirations of radiographers wishing to develop within this speciality, the interests of the profession as a whole and to the support work undertaken by the IM&T group on behalf of Council.

### **4.6 IM&T Capacity & Demand Data**

- 4.6.1 The SCoR would welcome the development of information systems that harvest data to assist with planning of services, particularly for diagnostic imaging.

## 5.0 Implementation

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5.1 As indicated at various points earlier in this document, there is an expectation that individual radiographers, radiography managers and providers of radiography education, need to embark on a programme of development for preparing existing staff and students to embrace the changes outlined.

### 5.2 To summarise: The SCoR expects

- Radiographers to grasp developmental opportunities that equip them with the necessary IM&T skills;
- Managers to offer developmental opportunities that ensure all radiography staff are fit for practice, including IM&T fitness;
- Education providers to embed IM&T within curricular and to offer appropriate post qualifying courses to up-skill and maintain competence in this fast moving area of practice.

### 5.3 Additionally, the SCoR will

- Offer targeted study days as part of its on-going commitment to continuing education and training;
- Publish further guidance on IM&T as and when required.

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**The College of Radiographers**

Limited company registration number 1287383

Registered charity number 272505

**First Edition**

**January 2006**

**ISBN 1 871101 31 X**

**£15 to SCoR members**

**£25 non-members**

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