Explanatory guidance

Using the national practitioner-level competencies framework for radiographers working in CT practice in the UK

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THE SOCIETY OF RADIOGRAPHERS

207 Providence Square
Mill Street, London
SE1 2EW, UK

020 7740 7200
info@sor.org

www.sor.org

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Executive summary

The Society of Radiographers (SoR) has developed a national professional competencies framework for the practical training and employer assessment of radiographers working in computed tomography (CT).

The competencies framework and assessment tool should be used alongside the College of Radiographers (CoR) *Education and Career Framework (ECF) for the Radiography Workforce*.[1]

The competencies framework has been developed by the SoR's appointed committee of expert radiographers from the CT workforce and aims to reduce unwarranted variation in the competence of radiographers working in CT.

The evidence-based framework represents a benchmark for practical training in CT. It requires employer assessment and agreement that an individual has reached a safe and effective level of skills and knowledge to work in the CT environment.

The purpose of the competencies framework and assessment tool is to specifically define what adequate training means in relation to working as an operator or practitioner in CT and as required by The Ionising Radiation (Medical Exposure) Regulations 2017.[2]

The competencies framework has been designed to start at practitioner level. Following an impact assessment of its implementation the CoR will consider developing the framework to include enhanced, advanced and consultant levels of practice building on these fundamental skills and knowledge.

Duties and responsibilities may vary among radiographers working in CT depending on the scope and complexity of the service, but it is expected that all radiographers working in CT will have met the practitioner-level outcome measures as a minimum.

The framework is applicable to services of varying sizes operating a variety of staffing models in both the NHS and independent sector in the United Kingdom. It can be used by chief executive officers to understand, plan and deliver safe and effective services, by senior managers to plan education and training and by individuals to consider their lifelong professional and technical development in CT.

It aims to provide assurance to patients and the public by improving the consistency of radiographer training in UK CT services, thereby improving the knowledge base, reducing inconsistencies and risk of harm, and contributing to safer high-quality patient outcomes.

Strategic rationale – why the competencies were developed

Patient safety and clinical governance

CT is an essential tool used in diagnostic imaging, nuclear medicine and radiotherapy planning to diagnose, guide or plan treatment on a wide range of conditions. It is commonly used to inform life-preserving decisions in emergencies such as major trauma and acute stroke. It informs and supports the diagnosis and surveillance of cancer treatment plans.

Compared to imaging alternatives which do not use ionising radiation, such as ultrasound and magnetic resonance imaging, and compared to general radiographic imaging of the body and extremities, CT examinations result in higher patient doses of ionising radiation.[3] Therefore, attention to optimisation of radiation exposures through adequate radiographer training is considered essential for patient safety and regulatory compliance assurance.

Patient safety, experience and outcomes from CT examinations are also safeguarded through legislation, regulatory requirements, education, training and professional standards.

In the year to March 2025, 8.3 million CT scans were performed in the NHS in England, representing an increase of 8.7% on the previous year.[4] This rise in demand is happening on a background of vacancy rates for the radiographic workforce of 9.2% in England with Northern Ireland, Scotland and Wales demonstrating vacancy rates ranging from 5.1% to 7.3% as of May 2025.[5]

CT continues to develop as a vital diagnostic technology, offering patients the opportunity for non- or minimally invasive alternative diagnostic imaging tests such as coronary angiography and colon imaging, as well as crucial time-sensitive imaging in acute stroke and trauma. As innovative technologies, such as photon counting CT, assistive software and remote operations emerge and develop, the CT workforce must continually learn and grow skills that drive the safe and effective implementation of new techniques and practices.

Competencies are widely used across healthcare in the UK to measure or develop a person's knowledge, skills and behaviours against those required for the role. Incorporating continuing professional development (CPD), they help individuals and organisations continually improve the quality of healthcare services.

There is no national standard representing the complete knowledge and skills required to work in CT. The Society of Radiographers CT Advisory Group (CTAG) developed the national practitioner-level competencies for radiographers working in CT practice in the UK to serve as a benchmark for employers and service leads. Implementation of the competencies framework will provide assurance that services are meeting a national minimum standard appropriate for radiographers working in CT. Its application will help identify opportunities for service-specific needs and equitable staff development.

The original aim of the work was to develop competencies for those working across all practice levels in CT. During the consultation process it became clear that the complexities of doing so with regard to the existing frameworks of the *ECF*[1] and *The Multi-professional framework for advanced practice*[6] in England were outwith the capacity of the CT Advisory Group. In future, through a post-implementation impact assessment, opportunities to extend the framework to enhanced, advanced and consultant practice levels will be explored.

The provision of a highly skilled and experienced radiographic workforce is essential to patient safety, operational effectiveness, good clinical governance and legislative compliance assurance.

Regulatory compliance and professional standards

The use of ionising radiation for medical exposures is governed by The Ionising Radiation (Medical Exposure) Regulations 2017[2] and The Ionising Radiation (Medical Exposure) Regulations (Northern Ireland) 2018[7] and subsequent amendments[8,9], hereafter referred to jointly as IR(ME)R.

Compliance with these regulations is enforced by the Care Quality Commission (CQC) in England and by the IR(ME)R Inspectorates in the devolved administrations, namely Healthcare Improvement Scotland (HIS), Healthcare Inspectorate Wales (HIW) and The Regulation and Quality Improvement Authority (RQIA) in Northern Ireland. The enforcing authorities are required to disseminate information regarding lessons learned from significant medical exposure radiation safety events. In England, the CQC produce an annual IR(ME)R report[10] which highlights errors, trends and makes recommendations to employers to improve the quality and safety of service delivery.

IR(ME)R duty holders are employers, referrers, operators and practitioners. Adequate training required to deliver ionising radiation exposures is defined by regulation 17 and schedule 3 of these regulations. In the context of the competencies framework, the term practitioner means professional practice level. Where it refers to a duty holder role, the term IR(ME)R practitioner is used.

In the UK, pre-registration education programmes for radiographers must be approved by the Health and Care Professions Council (HCPC) and preferably also by the College of Radiographers (CoR). The CoR is concerned with promoting and developing the science and practice of diagnostic imaging, nuclear medicine and radiotherapy for the benefit of the public.

Radiographers who successfully complete an approved pre-registration degree are eligible to apply to be registered with the HCPC. New professionals joining the radiographic workforce will, as a minimum, have met the HCPC *Standards of conduct, performance and ethics*[11] and *The standards of proficiency for radiographers*[12] (SoP).

Entry to the profession is at practitioner level. The technologies accessible to a pre-registration student may vary depending on geographical location, range of available clinical placement sites and breadth of services delivered. New registrant radiographers are likely to have experienced a limited range of CT examinations and will be assessed as competent to the minimum standard required by *The standards of proficiency for radiographers*[12] by the HCPC. This means they will be able to perform "a broad range of computed tomographic (CT) examinations, including standard head CT examinations, and assist with CT examinations of the spine, chest and abdomen in acute trauma, and to contribute effectively to other CT studies"[12] which represents a small proportion of the full scope required of an experienced radiographer working in CT. Therefore, at entry level to the profession, registrants are considered to have achieved this minimum skill set and will need to build on both their theoretical knowledge and practical experience to be entitled as IR(ME)R operators in CT. Radiographers are required to practice within the legal and ethical boundaries of their profession.

The *ECF*[1] sets out the educational standards and the knowledge, skills and attributes required across all practice levels. It reflects the essential capabilities required for radiographers to work safely and effectively at all practice levels when delivering diagnostic and therapeutic services. At practitioner level it reflects the broad scope of practice of a diagnostic radiographer.

At the time of writing, there is no national standard that encompasses the full range of technical competencies required to work in CT in the UK.

The competencies framework should be used alongside the *ECF*[1] as a comprehensive representation of the entry level and additional skills required to work unsupervised in CT.

The range and complexity of CT examinations is continually evolving and radiographers working in CT must continue to meet professional standards relevant to their role and scope of practice. Few CT services can run purely non-complex lists. Depending on delivery models some sites will only perform complex CT on the most vulnerable patients. Other sites such as community diagnostic centres (CDC) will predominately provide services for lower risk, but not necessarily less complex patients.

The competencies framework highlights relevant standards available at the time of writing. At the Society of Radiographers Annual Delegates Conference 2026 motion 18[13] was carried to promote with Trust and Board radiology managers that safe staffing must be competency based, defined by relevant skills, not just physical headcount.

The law currently permits diagnostic radiographers to supply and/or administer medicines using patient specific directions (PSD)[14] or patient group directions (PGD).[15] Radiographers must know the legal framework under which they are working. They must understand the requirements and restrictions associated with each medicine and be able to confidently manage patient safety in such circumstances as extravasation and anaphylaxis.

Radiographers new to CT may or may not have the required skills, knowledge or experience in medicines management related to CT. Until such times as they are assessed as competent

across the full range of duties required for their role, further training, development and mentoring is required post registration. During this time, they will need to be supported and supervised by an adequately trained radiographer.

The purpose of the competencies framework is to specifically describe what additional training is required in relation to working as an IR(ME)R duty holder in CT at practitioner level. It is recognised that while duties and scopes of practice may vary among individuals depending on the complexity of the service, it is expected that all radiographers working unsupervised in CT will have met the practitioner-level outcome measures as a minimum.

Radiographer competencies are a demonstrated measure of theoretical knowledge, technical skills, behaviours and attitudes required to perform effectively within a role. Prior to the publication of *Developing CT workforce competencies: What knowledge and skills should we expect of an early career radiographer?*[16] there was no consensus as to what the national standard should be for radiographer competencies in CT in the UK. Instead, competencies have been employer led rather than driven by the profession, which has resulted in variation amongst radiographer knowledge, practice and skill sets.

Employer attitudes to professional development, or senior leadership understanding of the science of CT and financial constraints can influence the level of support available for CT training and education strategies. Implementing the competencies framework ensures consistent standards are set out by employers and achieved by staff, helping to drive professional excellence.

Clinical outcomes and organisational performance are measured using clinical audit. Employers must have procedures in place to facilitate and respond to clinical audit outcomes.[2] These are measured against local and national standards where available.

It takes time to build a body of knowledge to underpin more extensive CT skills. IR(ME)R regulation 6(3)(b) requires employers to take steps to ensure that every practitioner or operator carrying out exposures is adequately trained and "undertakes continuing education and training after qualification".[2]

Professional development is important for innovation, service improvement and the retention and motivation of the workforce.

Achieving the Quality Standard for Imaging (QSI) Quality Mark

The *Quality Standard for Imaging* (QSI)[17] sets national quality criteria for imaging services. The scheme supports services to share good practice while working towards achieving the QSI Quality Mark. The *QSI*[17] requires, and *Principles of Safe Staffing for Radiography Leaders*[18] recommends, that a competency framework is in place for defining roles and tasks within a service. *Principles of Safe Staffing for Radiography Leaders*[18] is a comprehensive guide that draws together regulatory requirements and professional standards and provides examples of staffing models and operational, strategic and network planning tools that have

been tried and tested.

Quality statements[17] specifically supported by use of the CT competencies framework include:

Standard XR-207	Service competencies, education and training

Quality statement

A competence framework is in place defining roles, education and training required within the service.

Outcome measure

The service can demonstrate how, collectively, the competence, education and training of all staff is linked to the needs of the service.

Standard XR-208	Recruitment

Quality statement

A policy exists for staff recruitment, onboarding and induction.

Outcome measure

The service evaluates its recruitment policy, onboarding and induction processes for all staff to ensure that new employees are successfully integrated.

Suggestions

There should be clear documentation of the competencies required for all roles.

Before an individual starts work the service should have local induction in place. For agency, bank and locum staff a review of competence for the expected role in diagnostic and interventional procedures should be completed.

Standard CT-901	Governance and safety systems

Quality statement

The CT service maintains governance and safety systems to ensure high-quality and safe delivery of CT services in alignment with national and professional regulations, standards, guidance and local policies.

Outcome measure

The service can demonstrate effective governance structures, regular review of safety protocols, and monitoring of compliance with national and professional regulations, standards and guidance.

Suggestions

The service should have staff training and competency records in clinical use of CT techniques, patient and staff safety, radiation protection and emergency procedures.

Standard CT-902	Staffing and training

Quality statement

All staff working in CT are trained and entitled according to their level of practice and role.

Outcome measure

Systems are in place to ensure that all individuals practising within CT are trained and entitled and possess the necessary competencies. Staffing levels are sufficient to ensure comprehensive coverage of the entire scope of CT services provided.

Suggestions

Staff should have sufficient training to maintain competence in CT including IR(ME)R and IRR compliance and medicines management according to their role.

The service should be able to demonstrate how, collectively, the competence of all staff links to the needs of the service. This could take the form of a competence matrix.

The service should ensure sufficient provision of suitably trained staff to deliver the CT service out of hours and 24/7 as required.

A training and development programme should ensure that all staff have, and are maintaining, these competencies and that opportunities for development are identified and actioned.

Records of additional training must be available as required by IR(ME)R.

The service should support postgraduate training and career development and support learners including radiology trainees within this specialty.

Systems of work should be in place to prevent staff in CT undertaking any examinations for which they are not fully trained.

The service should have in place programmes of support aimed at the integration and development of new professionals and staff new into CT.

There should be regular review of staffing levels, skill mix and training, with action plans for improvement, including responses to changes in service demand, technology and best practice. Staff should have sufficient training to maintain competence in CT including IR(ME)R and IRR compliance and medicines management according to their role.

Operational considerations – how the competencies were developed

Target audience and purpose

National standards assist in the safe and equitable delivery of healthcare and the competencies framework can be used across the four countries of England, Northern Ireland Scotland and Wales.

The framework was developed specifically for the use of CT service leads and radiographers working in CT in the UK.

The framework is underpinned by research[16] focussed on early career (0–2 years) diagnostic radiographers working in CT. CTAG used recommendations from this research as the evidence base for the core competencies at practitioner level. After analysing these, and

using their wide-ranging knowledge, skills and experience, they built on these for the practitioner-level role in CT. The appropriateness of additional requirements was discussed and those considered essential were included.

An early pilot consultation was undertaken inviting the SoR Radiotherapy Advisory Group (RAG) and the Nuclear Medicine and Molecular Imaging Advisory Group (NMMAG) to present their views on the inclusion of radiotherapy planning or CT PET/SPECT competencies. While the framework is not specifically designed to represent the competencies required for therapeutic radiographers working in radiotherapy pretreatment or for radiographers and nuclear medicine technologists operating CT scanners, they should be expected, as a minimum, to meet the outcome measures relevant to their roles and responsibilities. Feedback indicated the competencies provided a valuable baseline which nuclear medicine and radiotherapy pretreatment services could build upon to ensure they were relevant to those services.

The framework can be applied to services of varying sizes operating a variety of staffing models in the United Kingdom. It can be used by NHS and independent healthcare providers to plan and deliver safe and effective services. It is relevant to CT service commissioners, employers, managers, educators, researchers and the public.
Employers can use competency records as evidence of adequate radiographer education and training and continuing professional development to meet their responsibilities under IR(ME)R[2,7] and as evidence for the Quality Standard for Imaging Quality Mark.[17]

Individuals can use the framework to record their professional and technical development in CT.

The framework aims to provide assurance to patients and the public that radiographer training, education and knowledge in UK CT services is high quality and consistent, thereby reducing the risk of harm and improving patient pathways.

Other CT operators, such as medical physics experts (MPE) and radiologists are likely to have a more limited scope of entitlement as CT operators, but they may find the framework helpful as a guide to develop their own training and education record.

The underpinning research was aimed at new professional radiographers in the early years (0–2) of registration and therefore the training, education, scope of practice, competencies or governance required for the radiographic support and assistant workforce is not considered. *The Radiography Support and Assistant Workforce: regulatory compliance, governance arrangements, supervision and delegation*[19] and Allied Health Professions' *Support Worker Competency, Education, and Career Development Framework*[20] provide guidance for the safe and effective employment of support and assistant staff which may help employers understand how the support workforce can be safely employed and developed in CT.

Safe staffing and ethical considerations

For safe and effective staffing, the CQC *Assessment framework*[21] provides a quality statement on what they expect providers, commissioners and system leaders to provide. It requires there to be "robust and safe recruitment practices to make sure that all staff, including agency staff and volunteers, are suitably experienced, competent, and able to carry out their role.".[21] CQC expect staff to receive training appropriate to their role and to have opportunities to learn.

The NHS Patient safety resource *Safety culture: learning from best practice*[22] defines a positive safety culture as one where "the environment is collaboratively crafted, created, and nurtured so that everybody (individual staff, teams, patients, service users, families, and carers) can flourish to ensure brilliant, safe care by:

1. Continuous learning and improvement of safety risks
2. Supportive, psychologically safe teamwork
3. Enabling and empowering speaking up by all"[22]

Patient safety is everyone's responsibility. The transformation of a safety strategy into operational delivery relies on the competencies of individuals. The environment must be one where open, honest and enquiring dialogue is encouraged. Individuals need to be able to recognise what is good or beneficial and prevent harm or risk. When things go wrong, the emphasis should be on learning and restorative care rather than blame. Well trained and competent radiographers can positively contribute to safe and just cultures.

Service leads should not ask anyone to undertake a task for which they are not educated, trained and assessed as competent, and no employee should work outside or beyond their written scope of practice.

Safety culture is considered a key determinant of safety in healthcare. Continual learning is integral to an effective safety culture. The ability to reflect on our behaviours and actions is a regulatory requirement for all registered healthcare professionals and it could be argued that this is an ethical responsibility.

The CT competencies framework accommodates variations in service delivery models, supporting services to develop a safe and appropriately skilled workforce. It can be applied to 24/7 staffing, acute and non-acute services, community diagnostic centres (CDCs), in the NHS and the independent sector. Alongside the *ECF*[1], it supports the objectives of the *10 Year Health Plan for England: fit for the future*[23] ensuring "every single member of NHS staff has their own personalised career coaching and development plan, to help them acquire new skills and practice at the top of their professional capability".[23] It also supports Action 1 of the *National Cancer Plan for England*[24] to bring community diagnostic services to more people by expanding the CDC estate and ensuring delivery of an optimal number of CT scans per hour. This requires commitment to the sustained development of appropriately trained practitioners at all practice levels.

Structure of the competencies framework

The competencies framework has been designed for use at practitioner level and represents the baseline from which all other practice levels should develop.

Divided into domains relevant to CT, it provides competency statements describing what the radiographer is expected to be able to do and the knowledge, skills and attributes they are expected to demonstrate. Outcome measures indicate whether the individual has met those expectations.

Supporting evidence should be recorded alongside the outcome measure to verify competence. Outcome measures are assessed using locally agreed methods undertaken by adequately trained staff. Anyone working in CT as an autonomous practitioner (i.e. not a trainee) should, as a minimum, meet the outcome measures relevant to their role. Evidence should reflect responsibilities, skills and knowledge relevant to the role (including cognitive function, attitudes and technical skills) and the individual's professional education and achievements across the four pillars of radiographic practice. It is currently considered outwith the remit of this work to include enhanced, advanced and consultant competencies in the framework. However, outcome measures at each practice level must build on the practitioner competencies and align with the knowledge, skills and attributes required by the *ECF*.[1]

The completed competency assessment is signed and dated by the radiographer and the assessor or competency panel representative and recorded by the employer and employee.

Following entry to the profession, a period of preceptorship and clinical supervision is recommended. During this time, mentor and mentee will work through a skills and knowledge gap analysis which will support the new professional to focus on relevant essential and continual learning. In the same way, preceptorship can be helpful for radiographers new to CT.

Implementing the competencies framework

Radiographer training and education in CT has developed in relation to evolving techniques and increasing demand since its inception in 1971. During this time techniques have evolved, equipment has become more complex, and the potential for both benefit and harm has risen due to increased application and demand set against a sustained period of severe workforce shortages.[5]

Training has historically consisted of a mix of in-house practical experience involving applications specialist and cascade-type training models, supplemented by formal postgraduate training and education. In addition to this, employer's procedures and the requirements of staff at each practice level will vary across the UK to reflect the model of service delivery. For example, in Northern Ireland all radiographers working in CT will be undertaking or have completed postgraduate training and education. There is a need to

improve consistency in the knowledge and skills of radiographers to assure patients are safe when accessing CT services across all four countries.

Most radiographers working in CT, at the time of publication, are working at enhanced practice level.[25] Some will have gained postgraduate education and training, and a few of those will be working at advanced practice level. Unlike other imaging techniques, the number of radiographers reporting CT examinations or working at consultant practice level remains low, despite the evolving technologies and applications of CT. This is particularly evident in Scotland, Northern Ireland and Wales with no or very low numbers of reporting radiographers.

The *SoR Diagnostic Radiography Workforce UK Census 2022 Report* highlighted only 0.64% of CT staff were in postgraduate training. This was below the level for radiographers working in ultrasound (1.26%), leadership development (0.76%) and conventional image reporting (0.77%).[26]

At the time of publication and to the knowledge of the SoR, there are no known clinical academic posts in CT in the UK. There is only one known consultant radiographer post specific to CT and one trainee consultant radiographer post. The *SoR Diagnostic Radiography Workforce Census 2025*[5] does not provide data for the CT workforce.
The lack of a national framework for CT competencies means it has been challenging to evidence transferrable skills. This may be considered a blocker to radiographer career development and a risk to employers and patients, particularly where reporting times are long.

Alongside formal education, implementing the national competencies supports duty holders to fulfil the training requirements of regulation 17 and schedule 3 of IR(ME)R.[2,7]

Competency statements and outcome measures should be assessed using locally agreed assessment methods undertaken by adequately trained staff. It is the individual's and the employer's responsibility to ensure a person's competence is appropriate for the role they undertake at each level of practice.

Anyone working as an autonomous practitioner in CT should, as a minimum, meet the outcome measures of practitioner level relevant to their role. Employers and assessors should ensure adequate evidence of theoretical knowledge and practical experience is recorded prior to an individual being assessed as competent.

Examples of the types of evidence that could be recorded as each competence is met are suggested in the Evidence section of the CT competencies document and apply equally across all competency domains. These are intended to support and accompany direct observation, assessment and case-based discussions.

Employers should agree and clearly define what is considered sufficient proof that a person has been adequately trained. All training should be documented as part of an individual's training record. It is for employers to decide what constitutes sufficient proof that a person is adequately trained.

The intention is to develop the framework to use across all four practice levels, including enhanced practitioner, advanced practitioner and consultant practitioner.
It is important to note that while capabilities are often transferrable between employers, technical skills require re-assessment to meet the requirements of IR(ME)R. An individual could therefore provide their competency record to a new employer as evidence that they meet a standard for the practice level required but should expect to undertake additional training and assessment on any new or unfamiliar equipment.

When things go wrong, reflection by practitioners at all levels should be fundamental to the practice of radiographers but, more widely, a robust learning and service-improvement process should be mandated by the employer. The Society of Radiographers recommends use of the National incident learning system for clinical imaging, MRI and nuclear medicine[27] to ensure a systems-based approach to learning from ionising radiation incidents, near misses and good catches.

A supplementary resource, *Quick reference guidance; Using the national practitioner-level competencies framework for radiographers working in CT practice in the UK* has been developed and is available alongside this guidance.

Roles and responsibilities of assessors

Assessors should be appropriately trained, and employers should consider how they assess and document the competence of assessors working in CT. A virtually run competency panel could be developed to support on-site technical assessments. The panel should consist of appropriately trained, educated and experienced CT radiographers, MPEs, practice educators and, where appropriate, medical staff. A panel offers a practical solution to busy departments with a high turnover of staff or to small or geographically isolated services with fewer appropriately trained staff.

An assessor should act fairly, impartially and without bias, discrimination or prejudice.

Remediation and support for trainees

Individuals should be supported to attain all outcome measures before being expected to undertake the full range of responsibilities of the practitioner role in CT. Where an individual is unable to demonstrate the required competencies to work in the CT environment despite appropriate training and reasonable support, local policies should facilitate more appropriate use of their skills.

When things go wrong, reflection by practitioners at all levels should be fundamental to the practice of radiographers. A robust learning and service-improvement process should be mandated by the employer.

Audit and continuous review

Employers can use the competencies framework as evidence of their compliance with the requirement of IR(ME)R regulation 17(4) to "keep and have available for inspection by the relevant enforcing authority an up-to-date record of all relevant training undertaken by all practitioners and operators engaged by the employer to carry out any exposures or any practical aspect of such exposures showing the date or dates on which training qualifying as adequate training was completed and the nature of the training".[2,7]

Competency records assist individuals to undertake a gap analysis of their learning needs and to continually update their knowledge and skills.

Pilot sites who successfully implement the competencies framework will be identified through the SoR's network of CT Service Leads. These sites will be invited to feedback how the framework is implemented in practice so an evaluation of its appropriateness and effectiveness can be made. They will also be invited to contribute to the development of competencies for enhanced, advanced and consultant practice levels in CT.

The competencies framework will be continually reviewed to address professional developments as they arise and no later than five years after publication to ensure it continues to meet the needs of our developing workforce and services.

Equality impact assessment

An equality impact assessment was used to consider the impact of introducing a national competencies framework for radiographers and nuclear medicine technologists working in CT.

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Ann Heathcote, CTAG
Lynda Johnson, SoR | CoR
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THE SOCIETY OF RADIOGRAPHERS

207 Providence Square
Mill Street, London
SE1 2EW, UK

020 7740 7200
info@sor.org

www.sor.org