

Evidence Brief: Radiography

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Produced by the HEE Knowledge Management team Evidence Briefs offer a quick overview of the published reports, research, and evidence on a workforce-related topic.

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- [Complete Evidence Brief list – link for External staff](#)

Key publications – the big picture

[The Allied Health Professions \(AHPs\) Strategy for England](#), NHS England, 2022

This strategy is a catalyst for change. Wherever you work, every member of our AHP community has a part in realising our collective ambitions through its delivery. I therefore encourage you to take a moment to consider how the AHP community can enable the change required to deliver future care today.

[Written evidence submitted by The Society of Radiographers \(ECS0030\)](#) 2021

Radiography is the fastest growing Allied Health Profession (AHP). 90% of patients will directly interact with a Diagnostic radiographer during their NHS treatment pathway – many patients are now as likely to encounter a radiographer as a nurse.

[More investment required to hit 45% recruitment target in radiography](#), 2021, Society of Radiographers

The CR-UK report, '[Estimating the cost of growing the NHS cancer workforce in England by 2029](#)', calls on the government to address the funding gap in Comprehensive Spending Review (CSR).

The report states: 'The diagnosis, treatment and support of people living with cancer relies on a range of skilled NHS staff conducting specialist tasks such as performing and reporting on diagnostic tests and providing different forms of treatment and support.'

[Developing the Radiography Workforce](#), 2019, Health Education England

[Cancer Workforce Plan: Phase 1: Delivering the cancer strategy to 2021](#), Health Education England

Case Studies

[Bridging understanding in nursing and radiography students: An interprofessional experience](#)

Through this activity, attitudes changed and knowledge of health profession roles increased in novice nursing students. Health professions educators must embrace IPE to encourage interprofessional collaboration for patients navigating the complex healthcare system today and in the future.

[Reject rate analysis in digital radiography: an Australian emergency imaging department case study](#) 2019

A feedback system between radiologists and radiographers may reduce the high percentage of positioning errors by standardising the technical factors used to assess image quality.

HEE Star

More resources and tools are available in the AHP Quick Reference Guides Upskilling section of the [HEE Star](#). Alternatively, search for 'Allied Health' in the search bar.

Statistics

[Diagnostic Radiography Workforce UK Census 2022](#)

[Society of Radiographers Reports and Surveys](#)

HEE National Data Programme

HEE staff can look at the [National Data Warehouse \(NDL\)](#) SharePoint site to find out more about datasets and Tableau products.

Published Peer Reviewed Research

Leadership, coaching and education

[Teaching students to mentor: Near-peer mentoring in undergraduate medical radiation science education](#), 2022

'Near-peer' mentoring, where the mentor and mentee are similar in social or professional status, has the potential to develop necessary mentoring skills and attitudes in the undergraduate setting. This is in addition to the positive benefits experienced by the mentee, who is beginning to navigate the university environment.

[Reporting radiographer academy training model: an evaluation of the impact for trainees and clinical service](#), 2022

The academy model has been well received by both cohorts in this study with positive outcomes highlighted and the model being seen as promoting and facilitating integrated imaging network working between departments.

[A personal journey to build leadership skills through collaboration to support radiography research and evidence-based practice](#), 2022

Nevertheless, the expansion of evidence-based practice (EBP) in radiography is demanding and it needs to be cultivated not only in clinical practice but also in education and training to promote the necessary attitudes, behaviours and culture.

[Professional diversity in leadership – Inclusion of the smaller professions](#), 2022 *Abstract only**

There are 14 Allied Health Professions (AHPs) in England with approximately 170,000 AHPs working within the NHS. Physiotherapists represent the largest group of AHPs with approximately 61,000 registered with the Health and Care Professions Council, whilst Prosthetics and Orthotics represent the smallest profession with approximately 1000 registrants.

[Reflections on leadership in advanced and consultant radiographic practice within the UK](#), 2021 *Abstract only**

A clearer understanding of leadership is needed to help conceptualise and measure its impact at advanced and consultant levels of practice. The content is intended to provide an opportunity for reflection and discussion around the topic, serving as a development tool in practice.

[A qualitative study exploring experiences and challenges of combining clinical academic training with family life](#), 2021

Although people manage to find ways to successfully combine clinical academic roles with family life, findings highlight a need to identify ways of supporting and encouraging trainees with caring responsibilities.

[Characterising the outcomes, impacts and implementation challenges of advanced clinical practice roles in the UK: a scoping review](#), 2021

This review suggests a need for educational and role standardisation and a supported career pathway for advanced clinical practitioners (ACPs) in the UK. Future research should: (i) adopt more robust study designs, (ii) investigate the full scope of the ACP role and (iii) include a wider range of professions and sectors. academic pathway.

[Who Coaches the Coaches? The Development of a Coaching Model for Experiential Learning](#), 2021

We recommend practices for coaching that can support gains for students and faculty in experiential, project-based, interdisciplinary courses.

[Evaluation of a peer mentoring scheme and the Impact on Third Year Students](#), 2020

The role of a newly qualified Radiographer has altered dramatically recently and graduates are working heavily with students from their first day as employees. This is happening before any formal mentor training is delivered. If a mentor does not have the appropriate skills to mentor, a barrier to successful mentorship exists (Straus, Chatur and Taylor, 2009). With this in mind, a peer mentoring scheme was developed whereby third year students mentored first year students from the Diagnostic Radiography programme.

[Examining the Relationship between Emotional Intelligence, Leadership Attributes and Workplace Experience of Australian Chief Radiographers](#), 2020 *Abstract only**

This study demonstrated relationships between years of experience, hospital size, EI, and leadership behaviours of Australian chief radiographers. Overall, increasing years of experience as a chief radiographer was associated with a reduction across some EI and LSAT factors.

[Capitalising on the transformational opportunities of early clinical academic career training for nurses, midwives and allied health professionals](#), 2020 *Abstract only**

Stakeholders need to recognise that a cultural shift about the purposes of research training from a transactional to transformative approaches is required to facilitate the

development of NMAHPS clinical academics, to enable them to contribute to innovative health and patient care.

[Evaluating a specialist education programme for nurses and allied health professionals working in older people care: A qualitative analysis of motivations and impact](#), 2020 *Abstract only**

Understanding the motivations to undertake a specialist gerontological programme and the impacts on practitioners and older people care and services will help inform the continuing professional development agenda for nurses and allied health professionals working in this field of practice.

[How do consultant radiographers contribute to imaging service delivery and leadership?](#) 2019

All consultants worked beyond their contacted hours. The documented activities demonstrate the breadth of the roles and confirmed that the participants were undertaking all four core functions of consultant practice.

[Challenges in mammography education and training today: The perspectives of radiography teachers/mentors and students in five European countries](#), 2018 *Abstract only**

The short study period allocated to this discipline and lack of material resources were considered the main limitations in mammography education, both impacting on the development of students' skills.

[Achieving success in clinically based research: the importance of mentoring](#), 2017

Mentoring is a critical component in building research capacity within the clinical workforce. Examples within the current paper highlight how clinicians can use mentors to help develop their clinical research skills.

[Formative feedback in the clinical practice setting: What are the perceptions of student radiographers?](#) 2016

The majority of students seek feedback that is specific and will clearly identify areas for development. They reflect on feedback as well as use self-criticism of their practice performance indicating the development of autonomous skills.

Community, primary, secondary and tertiary care

[Leading radiography research to deliver clinical outcomes](#), 2022 *Athens log in required**

Clinical radiographers understand important contemporary issues in practice and identify appropriate research questions but are perhaps ill-equipped with methodological skills to undertake research.

[A survey assessment of reporting radiographers' scope of practice in the West Midlands region of the United Kingdom](#), 2019 *Abstract only**

An increased number of participants report chest and abdominal examinations than previously identified. Restrictions in paediatric scopes of practice and adult GP chest examinations are also evident.

Role progression and development

[Retention of radiographers in the NHS: Influencing factors across the career trajectory](#), 2022

The different needs between the generations of radiographers should be viewed in terms of the strengths that they may bring to the workplace, rather than the challenges that they may pose. This generational timeline does not stand still and the learning is a continuous process.

[Career intentions, their influences and motivational factors in diagnostic radiography: A survey of undergraduate students](#), 2022

Radiography academic teams and clinical placement providers must work together to ensure that students have access to high quality placements across specialities. The experiences received during undergraduate training are important in specialty choice.

[Recognition of radiographers in the workplace: Why it matters](#), 2022

Recognition is one of the basic needs of an individual, and satisfying this need is a crucial issue for organizations. This paper focuses on the importance of recognition for radiographers, notably to protect their psychological health and increase their well-being at work and in their professional career.

[Difficulties associated with access to training and clinical support for Reporting Radiographers – A narrative evidence synthesis](#), 2022 *Abstract only**

Reporting Radiographers often found it difficult find support during training and once qualified, this was usually due to the availability and workload of supervising staff. Although resistance and obstruction were experienced by many.

[An investigation of implementation within the UK radiography profession](#), 2022

There is potential for strong implementation in radiography with a need to facilitate and empower radiographer leaders at all levels in the health system. The reported radiography contextual barriers and enablers should inform future research in this regard.

[Assessment of advanced clinical practitioners](#), 2022 *Abstract only**

The insights from this study enabled lessons to be drawn for those responsible for workforce development who are key to the future development of the ACP role and to ensure high standards of interprofessional care.

[Facilitators for and barriers to radiography research in public healthcare in Nordic countries](#), 2022

A strategy for establishing a radiography research culture in healthcare is proposed that is novel for the context.

Management support for knowledge development and activity leading to inter-professional research projects across knowledge fields, provision of a radiography research lead and acknowledgement of radiography research among colleagues signify the establishment of the culture.

[A literature review exploring the perceived impact, challenges and barriers of advanced and consultant practice in therapeutic radiography](#), 2021

Advanced and consultant roles benefitted patients by streamlining pathways and increasing satisfaction and there was a clear benefit to healthcare due to time and cost savings. The implementation obstacles focused around a lack of understanding and support from colleagues. There is a positive impact from advanced and consultant roles in therapeutic radiography to patients, staff and the healthcare system.

[The College of Radiographers Research Strategy for the next five years](#), 2021 *Abstract only**

The new strategy aims to be 'future proof' and more easily accessible to radiographers making research itself more easily accessible and encouraging all members to become involved.

[Clinical academic radiographers – A challenging but rewarding career](#), 2021 *Abstract only**

Clinical academic careers can provide advantages for the individual, department, profession and most importantly the patient with advanced clinical practice through evidenced based research.

[Supporting the development of the research and clinical trials therapeutic radiographers workforce: The RaCTTR survey](#), 2021 *Athens log in required**

The findings illustrate several important implications which if not addressed may not only hinder UK radiotherapy departments to achieve the national increase of 15% of clinical trial activity over the next three years but also restrict the growth in size and scope of professional practice of the workforce.

[Characterising the outcomes, impacts and implementation challenges of advanced clinical practice roles in the UK: a scoping review](#), 2021 *Abstract only**

This review suggests a need for educational and role standardisation and a supported career pathway for advanced clinical practitioners (ACPs) in the UK. Future research should: (i) adopt more robust study designs, (ii) investigate the full scope of the ACP role and (iii) include a wider range of professions and sectors.

[Advanced musculoskeletal physiotherapy practice: Informing education curricula](#), 2020 *Abstract only**

Despite variances in profiles of APPs both between and within countries, common themes emerged regarding their expected competencies and skills.

[Characterising the outcomes, impacts and implementation challenges of advanced clinical practice roles in the UK: a scoping review](#), 2021 *Abstract only**

This review suggests a need for educational and role standardisation and a supported career pathway for advanced clinical practitioners (ACPs) in the UK. Future research should: (i) adopt more robust study designs, (ii) investigate the full scope of the ACP role and (iii) include a wider range of professions and sectors.

[Relationship between labour force satisfaction, wages and retention within the UK National Health Service: a systematic review of the literature](#), 2020

Pay was found to influence satisfaction, which in turn affected retention. An increase in wages alone is unlikely to be sufficient to ameliorate the concerns of NHS workers.

[Developing a consolidated research framework for clinical allied health professionals practising in the UK](#), 2020

The consolidated framework was entitled 'Shaping Better Practice Through Research: A Practitioner Framework' by stakeholders, thus emphasising its ambition to embed research activity into practice.

[Artificial intelligence in diagnostic imaging: impact on the radiography profession](#), 2019

This paper discusses the potential impact of artificial intelligence (AI) on the radiography profession by assessing current workflow and cross-mapping potential areas of AI automation such as procedure planning, image acquisition and processing. We also highlight the opportunities that AI brings including enhancing patient-facing care, increased cross-modality education and working, increased technological expertise and expansion of radiographer responsibility into AI-supported image reporting and auditing roles.

[Assistant radiographer practitioners: Creating capacity or challenging professional boundaries?](#) 2018

ARPs are helping to maintain capacity in imaging departments but we suggest there is further scope for expansion. The practice described by the post holders suggests that many are working beyond the scope envisaged by the radiography professional body.

[Building clinical academic leadership capacity: sustainability through partnership](#), 2018 *Abstract only**

A national clinical academic training programme has been developed in England for nurses, midwives and allied health professionals but is insufficient to build a critical mass to have a significant impact on improved patient care.

[Are reporting radiographers fulfilling the role of advanced practitioner?](#) 2017 *Abstract only**

Few individuals are aware of the difference between extended and advanced practice. Though the majority of plain film reporting radiographers identify themselves as advanced practitioners, significantly less evidence all four core functions of higher level practice. The number of individuals undertaking research and providing expert-level education is low.

Workforce perspectives and mental health

[Difficulties associated with Reporting Radiographer working practices – A narrative evidence synthesis](#), 2022 *Abstract only**

Better use of the existing workforce is essential to increase productivity, value, and security of Reporting Radiographer services, which are essential to improve patient outcomes and efficiency.

[Diagnostic radiography students' perceptions of working in the clinical environment: A focus on emotional challenges](#), 2022

Emotional challenges exist in the clinical environment. Experiences affecting wellbeing in the clinical setting are

diverse among DR students, and students may lack preparedness to deal with them.

[Experiences of diagnostic radiographers through the Covid-19 pandemic, 2022 Abstract only*](#)

This study highlights the importance of interprofessional working and that further work is required in the promotion of the profession.

[The risk of burnout in academic radiographers during the COVID-19 pandemic, 2022](#)

These data demonstrate the stark reality of the impact of the COVID-19 pandemic on academic radiographers' workload, wellbeing, and intention to leave their roles.

[A study to investigate undergraduate diagnostic radiographer preferences and expectations of clinical role development: Quantitative findings, 2022](#)

Other than a larger percentage having A-level as their highest qualification, the participant demographics were similar to the UK radiography workforce. Reporting, CT, MRI and ultrasound are the specialisation preferences of final year undergraduate diagnostic radiography students.

[Joining the workforce during the COVID-19 pandemic: views of Allied Health Profession students, 2022 Abstract only*](#)

Although the transition from student to practitioner continues to be a stressful period, only a minority of participants reported COVID-19 as an explicit stressor.

[“Operating Theatre radiography not for the faint of heart”: How can we support our radiographers? 2022](#)

In our institutional context, the view of “operating theatre radiography not for the faint of heart” lies close to many

radiographers. We have shared our experiences and perspectives of supporting intraoperative radiography.

[Wellbeing and coping of UK nurses, midwives and allied health professionals during COVID-19-a cross-sectional study, 2022 Abstract only*](#)

This workforce would benefit from additional support/services to prevent further deterioration in mental health and wellbeing and optimise workforce retention.

[Impact of the COVID-19 pandemic on radiography practice: findings from a UK radiography workforce survey, 2021](#)

This survey has demonstrated changes to clinical practice, in particular to working patterns, service delivery and infection prevention and control were key contributors to workplace-related stress during the pandemic.

[Radiographers' perception on task shifting to nurses and assistant nurses within the radiography profession, 2021 Abstract only*](#)

A majority of the radiographers had a negative attitude towards task shifting to nurses and assistant nurses. The radiographers were more positive to hand over tasks related to patient care and administrative tasks than technical related tasks within the profession.

[Investigating perceptions of ‘dose creep’ amongst student radiographers: A grounded theory study, 2021](#)

This paper concludes by affirming some challenges surrounding optimal exposure selection and the known phenomenon, dose creep. Further, this study identifies the importance of learning and teaching in the clinical environment whereby learned behaviour leads to suboptimum practices.

[Radiographer reporting: A literature review to support cancer workforce planning in England](#), 2019

Working within multiprofessional clinical imaging teams, within a defined scope of practice and with access to medical input when required, reporting radiographers augment capacity in diagnostic pathways and release radiologist time for other complex clinical imaging responsibilities.

[Radiographers' and students' experiences of undergraduate radiotherapy practice placement in the United Kingdom](#), 2019 *Abstract only**

The experiences of students and practice educators using the radiotherapy models are consistent with the experiences of other AHPs and nursing using similar practice placement models.

[Work-related ill-health in radiographers](#), 2018

In the UK in 2015/16, 1.3 million workers self-reported a work-related illness (WRI) of which an estimated 41% were due to musculoskeletal disorders (incidence rate 550 cases per 100000 people) and 37% were related to stress, anxiety and depression. Little is known about the incidence of WRIs in radiographers.

Diversity and inclusion

[Diagnostic radiography students' perceptions towards communication with service users who are deaf or hearing impaired](#), 2023 *Abstract only**

The study has produced data on the experience of student radiographers interacting with an understudied service user group who are deaf or hearing impaired. Qualitative responses discussed a range of resources to assist clinical practice communication and recommendations for further improvements and training opportunities.

[Gender diversity in therapeutic radiography: A mixed methods exploration of the gender influences impacting on male students' career choices](#), 2022

Recruitment language should embrace 'leadership' attributes as well as 'caring' attributes. Supported by male role models, outreach events should emphasise the profession in terms of a sustainable, fulfilling and rewarding career.

["Raising the curtain on the equality theatre": a study of recruitment to first healthcare job post-qualification in the UK National Health Service](#), 2022

The Healthcare Workforce Equity + Diversity Lens we have developed can help to 'raise the curtain on the equality theatre' and inform more inclusive approaches to recruitment such as contextualised recruitment or effective allyship between employers and universities.

[The challenge of diversity in the allied health professionals](#), 2020 *Abstract only**

Although the Allied Health Professions (AHPs) are a diverse range of professions in terms of their skill set. The workforce which makes up the professions lacks diversity.

[Embracing diversity in radiography: The role of service users](#), 2018 *Abstract only**

It is vitally important that student radiographers feel comfortable to interact with and care for service users from different backgrounds and cultures and to be able to demonstrate an awareness of and sensitivity to the range of issues and individual needs of every service user they may encounter in their professional role.

Competency Frameworks

[Multi-professional framework for advanced clinical practice in England](#)

[The Society of Radiographers Competence Skills for Health](#)

[The standards of proficiency for radiographers, HCPC](#)

[Development of a digital competency framework for UK Allied Health Professionals, 2020](#)

This framework has been developed to support the enhancement of digital competence (knowledge and skills associated with digital technology in practice) for all allied health professions from band 3 to band 9. It is intended to be a developmental and supportive tool that can enable all staff to meet their digital potential.

*Help accessing articles or papers

Where a report/ journal article or resource is freely available the link has been provided. If an NHS OpenAthens account is required this has been indicated. It has also been highlighted if only the abstract is available. If you do not have an OpenAthens account you can self-register here.

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