



### SP06.5 Competency and Professional Advancement in Computed Tomography (ComPACT): A modified e-Delphi survey to identify CT competencies at different diagnostic radiographer expertise levels

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**Background:** Competency frameworks for diagnostic radiographers are central to assessing performance and defining role accountability. However, there is little research of the knowledge and skills required of individuals entering CT practice (NHS career level 4 or 5), or the developmental opportunities there are in advanced clinical practice and leadership (level 6, 7, 8 or beyond). This paper presents a modified e-Delphi study to gain agreement on CT practice competencies (embracing higher-level capabilities).

**Method:** The Delphi survey was administered through completion of two structured online questionnaires. Expert panel members were recruited via established CT professional groups, and through social media. For each competency item, experts were asked to indicate whether it was "essential", "desirable" or "not necessary" for practice levels 4-8, with agreement equated with  $\geq 70\%$ .

**Results:** Survey rounds yielded response rates greater than that required to establish percentage agreement ( $n=30$ ) using Lawshe's  $CVR_{critical}$  values (Ayre and Scally, 2014). Experts provided opinion on 214 diverse CT competency items and added a single competence around communication. Analysis of agreement is on-going. Early results indicate few contradictions amongst the identified competencies and expertise levels. Respondents found it problematic providing opinion at practice level 4.

**Conclusions:** Although this study is limited by individuals practice reflections, it has accomplished agreed contemporary CT competencies and capabilities that align to the four-tier model underpinning skills mix within this area of practice. The outcome is a robust framework that can be operationalised to define diagnostic CT roles, identify gaps in own practice, and support career progression.

1. Ayre, C. and Scally, A.J. (2014) Critical values for Lawshe's Content Validity Ratio: Revisiting the original methods of calculation. *Measurement and Evaluation in Counseling and Development*. 47 (1), 79-86.

### SP06.6 Challenging the clinical education of diagnostic radiographers to make way for student placement expansions: a reflective exercise

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**Background:** Staff shortfalls in diagnostic radiography is everyone's responsibility. With 1 in 9 jobs vacant in England, it is paramount novel methods for increasing student numbers in a safe and efficient way are sought. Although every effort with the higher education institutes, the Council of Deans and Health Education England are made, the obvious bottleneck comes from clinical provision to allow a student to fulfil their clinical competencies for course completion. It is the responsibility of practice-based educators to work with said institutes to develop a fresh way of delivering education.

**Purpose of poster:** At a large teaching hospital, mechanisms have been found to nearly double student numbers from 10 to 19 students in the last few years while still producing a comprehensive student environment that is both effective and well received by the students. This poster sets out to reflect on the process, outlining positives and negatives of the process and showcase the method in which this was achieved.

**Summary of content:** Through student testimonials, reflective processes and extensive feedback, this poster has the intention of setting a platform for other hospitals who accept student learning to review their process.

1. The society and college of radiographers (2009) Approval and accreditation board handbook. Available: [https://www.sor.org/system/files/section/201110/2009.05.01\\_AAB\\_Handbook\\_SJ\\_V\\_1.0.pdf](https://www.sor.org/system/files/section/201110/2009.05.01_AAB_Handbook_SJ_V_1.0.pdf). Last accessed:16 December 2020.



## Proffered papers: Service

### SP07.1 The collaborative development of a diagnostic radiography programme between a hospital trust and a local university to improve student experience, maximise placement capacity and develop radiographers fit for the future

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**Background:** The training of diagnostic radiographers has always been a collaborative approach between academic institutions and placement providers. Traditionally the university has provided the academic theory and the placement has provided the practical experience. This has led to students experiencing a theory/practice gap and



often struggling to link the two experiences together (Bwanga & Lidster, 2019). In addition, placement capacity is a concern and maximising this is crucial to the students experience and success (Hyde and Erret, 2017)

**Purpose of poster:** To showcase the proposed advantages to the student experience of close collaboration between the university and placement provider. To demonstrate how university and placement provider can work together to produce an innovative programme fit for radiographers of the future. To highlight how placement capacity can be maximised when embracing the 24/7 nature of the radiographer's role.

**Summary of content:** The poster presents an outline of a collaborative approach between placement and academic institution to design a new degree programme. It shows how the relationship between the university and placement provider began and progressed, and how it is now integral to the success of the degree programme. It highlights the benefit to the student experience by having staff from the clinical environment on the teaching team and members of the academic team working clinically. It also demonstrates how working shift patterns and exploring areas outside of imaging, will maximise placement spaces and encourage final year students to mentor first year students.

1. Bwanga, O & Lidster, J (2019); East African Scholars J Med Sci; 2(7): 367-380 2. Hyde, E. and Errett, S. (2017) 'Building capacity: an evaluation of the use of non-traditional placements in diagnostic radiography education.' [Poster] Presented at the UK Radiological and Radiation Oncology Congress (UKRCO), Manchester, 12-14th June.

### SP07.2 The regional development of a cultural support package to improve the lived experiences and cultural transition of internationally recruited radiographers: reflections of a targeted intervention post covid

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NHS England and NHS Improvement

**Background:** As part of the national Adapt and Adopt project, a large regional international recruitment drive was undertaken to address significant shortfalls within the radiographer workforce. Working collaboratively with stakeholders and arm's length bodies, the regional imaging team developed and implemented a cultural support package designed to ensure a smooth transmission through the onboarding process and beyond.

**Purpose:** The cultural support package was designed around a three-phase strategy that focused on a targeted 'before, during and after' intervention. A series of webinars and discussions used appreciative inquiry as a method to explore the lived experiences of international radiographers already working in the UK. The findings were used to influence and guide the development of the support package. Specialist providers were brought into design and provide an online learning resource focusing on both educational and cultural acclimatisation aspects. New recruits' expectations and perceptions was assessed prior to arrival, and this was repeated after three months. An evaluation was then undertaken to identify the effectiveness of the various interventions.

**Summary:** Ethical international recruitment has successfully supported the regions workforce strategy and provided much needed resources on the ground post covid. This project has been driven by the regional imaging leadership team who have worked with the wider group to ensure successful implementation. The cultural package has served to support both the new recruits and their residing departments during the onboarding process and transitioning phase and it is hoped this investment will ensure positive levels of retention within this

1. King's Fund (2018) Nuffield Trust. The health and care workforce in England: make or break? [online] Nuffield Trust. Available at <https://www.health.org.uk/publications/the-health-care-workforce-in-england> (Accessed 15 December 2020) 2. NHS (2019) The NHS long term plan [online] NHS England and NHS Improvement. Available at <https://www.longtermplan.nhs.uk/> [Accessed 15 December 2020] 3. Richards, M. (2020) Diagnostics: Recovery and Renewal - Report of The Independent Review Of Diagnostic Services For NHS England. [online] NHS England. Available at: <https://www.england.nhs.uk/wp-content/uploads/2020/11/diagnostics-recovery-and->

### SP07.3 A joint enterprise between radiology and physics to tackle the backlog of MRI scans caused by covid19 by producing new accelerated scan protocols for oncology patients enabling faster recovery of capacity and avoidance of outsourcing

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The Christie

**Background:** diagnostic imaging delays for oncology patients soared during Covid 19 lockdown. Recent studies indicate that a four-week delay in results/treatment can increase mortality in cancer patients by up to 13%. Across all of the imaging modalities nationally MRI scanning has been the slowest to recover.

**Method:** Analysis of departmental activity to assess which scans occur most frequently. Brain and spine imaging selected against this criteria. Existing imaging protocol parameters exported and investigated off-line to avoid scanner downtime. Out-of-hours sessions conducted testing alterations. Changes made to: signal averages, phase resolution, partial Fourier, parallel imaging, echo train length, RF pulse type, gradient speed, bandwidth, matrix size, concatenations, repetition time. Qualitative review of changes by Consultant Radiologist and Clinical Specialist Radiographers.

**Results:** New protocols saved up to 24mins per scan totalling 15.5 hours per week. No need to add extra cleaning time to appointments or gaps to allow for social distancing. We were able to offer appointments between 2 & 6 weeks



after cancellation in most cases and reach 100% capacity by July. No patients had to be outsourced.

**Conclusion:** by looking for internal solutions and utilising the specialist expertise of physicists and radiographers hospitals could adopt similar approaches to future MRI imaging demands and avoid reliance on out sourcing and mobile vans which are not always suitable for certain patient groups. Accelerated protocols have provided our centre with a future proof solution should there be an increase in referrals from patients who stayed away from their GPs during covid19.

#### SP07.4 Patient perceptions and acceptance of whole-body myeloma imaging

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**Background:** Radiographic skeletal survey (RSS), low-dose whole-body computed tomography (LD-WBCT) and whole-body magnetic resonance imaging (WB-MRI) are all used for diagnosing myeloma. This study explores patient perceptions of whole-body imaging (WBI) and the factors that influence their acceptance from a qualitative perspective.

**Methods and Materials:** Sixty participants (median age = 58.5), recruited from three NHS trusts and social media, completed an adapted survey with open and closed questions to share their experiences of WBI. A qualitative descriptive approach was used for the interpretation of individual experiences. Thematic analysis was used as the framework for data analysis.

**Results:** Three themes were identified; the first outlines the factors intrinsic to patients that influence the acceptability of WBI. Myeloma patients understood the need for WBI, although imaging results, bone damage and pain all caused concerns. Theme 2 collated the factors that improve the acceptance of WBI, primarily physical comfort and staff support. The third theme describes barriers to WBI acceptance, including a claustrophobic environment, noise and the duration of the examination. Respondents were averse to the physical manipulation required for RSS and staff being too task focused.

**Conclusions:** Respondents were highly accepting of the need for imaging, despite associated burdens. Staff interactions can significantly impact patients perceptions of WBI and its acceptance, both positively and negatively. Staff should be encouraged to support service users and the patient should be involved in the choice of imaging, when appropriate. Although WB-MRI can be challenging, with the right support it is achievable for most myeloma patients.

1. Bradshaw, C., Atkinson, S., and Doody, O. (2017) 'Employing a Qualitative Description Approach in Health Care Research'. *Global Qualitative Nursing Research* 4, 2333393617742282  
2. Braun, V. and Clarke, V. (2006) 'Using Thematic Analysis in Psychology'. *Qualitative Research in Psychology* 3 (2), 77-101  
3. Chantry, A., Kazmi, M., Barrington, S., Goh, V., Mulholland, N., Streetly, M., Lai, M., and Pratt, G. (2017) 'Guidelines for the use of Imaging in the Management of Patients with Myeloma'. *British Journal of Haematology* 178 (3), 380-393

#### SP07.5 Barriers and facilitators to engaging with health services for patients with breast cancer symptoms or a breast cancer diagnosis during the COVID-19 pandemic

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**Introduction:** In the UK, breast cancer is the most common cancer, accounting for 15% of all new cancer cases (Cancer Research UK, 2017). In response to the Covid-19 pandemic a national lockdown was introduced in the UK in March, 2020. Since this time there has been a drop in screening and referrals for people presenting with breast cancer related symptoms. There is concern that the delay experienced by some patients with breast cancer-related symptoms may increase the risk that the patient may require more extensive surgery, or in some cases reduce the patient's chances of long term survival.

**Aims:** To investigate the experiences and actions of women and men (who had breast cancer symptoms) in gaining access to cancer services during the COVID-19 pandemic. A theory around the barriers and facilitators to active self-referral during a pandemic and the service limitations that prevented timely interventions will be developed from the data generated.

**Method:** As little is known about the personal choices people make about their health during a pandemic; Kathy Charmaz's 'Constructivist Grounded Theory' (2016) using open interviews to elicit understanding has been adopted. Purposive sampling has been employed with those eligible for the study recruited through the Breast Cancer Now patient forums.

**Impact:** The theory identified on care seeking or care avoidance behaviour developed through this study will be used to inform the public, cancer service providers and GP's on strategies to enhance patient access to services during a pandemic and beyond.

1. Cancer Research UK. (2017) *Breast Cancer Statistics*, Cancer Research UK. 2. Charmaz K. (2016) *Constructing Grounded Theory. A practical guide through Qualitative Analysis*. SAGE publication.



### SP07.6 Realising the role of the therapeutic radiographer in prehabilitation and rehabilitation

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**Background:** 50% of all cancer patients receive radiotherapy treatment, delivered by Therapeutic Radiographers (TR's) (1). Prehabilitation prepares people for cancer treatment by optimising their physical and mental health through a needs-based prescription of exercise, nutrition, and psychological interventions. The BMJ note that, although it is a great idea in theory, it is somewhat trickier in practice (2). This can be seen in the literature, where it's well documented that rehabilitation /prehabilitation should be delivered by the multidisciplinary team (3,4), however, there is a notable absence of the TR, who can see cancer patients for up to 8 weeks during radiotherapy. This is a significant missed opportunity.

**Purpose:** To meet the increased demand for cancer services, new ways of working are essential (5) and TR's should be integral to this workforce redesign and the prehabilitation / rehabilitation agenda. A proposed case study pathway is presented to highlight how the TR's could support prehabilitation / rehabilitation, optimising patient care; whether that be through screening, assessment, monitoring and evaluation, or referral to interventions. As part of this exploration to realise the potential of TR's, a survey of TR's current knowledge, perceptions and confidence levels is presented, identifying workforce development needs.

**Summary of content:** Prehabilitation and rehabilitation should be integral to the role of ALL the MDT and although emphasis has historically been on surgery, focusing on radiotherapy is key to ensure patients living with cancer have the appropriate support to minimise long term side effects, improve quality of life and overall health.

1. Cancer Research UK. (2020) Retrieved from <https://www.cancerresearchuk.org/about-cancer/cancer-in-general/treatment/radiotherapy/about>  
2. Giles, C. and Cummins, S. (2019) Prehabilitation before cancer treatment. BMJ. Vol. 366. doi: <https://doi.org/10.1136/bmj.l5120>  
3. Macmillan Cancer Support (2020). Principles and guidance for prehabilitation within the management and support of people with cancer. Retrieved from <https://www.macmillan.org.uk/healthcare-professionals/news-and-resources/guides/principles-and-guidance-for-prehabilitation>  
4. Macmillan Cancer Support. (2018) Cancer Rehabilitation Pathways. Retrieved from <https://www.macmillan.org.uk/assets/macmillan-cancer-rehabilitation-pathways.pdf>  
5. Macmillan Cancer Support & NHS Improvement. (2013) Living with & Beyond Cancer: Taking Action to Improve Outcomes (an update to the 2010 The National Cancer Survivorship Initiative Vision). Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/181054/9333-TSO-2900664-NCSI\\_Report\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/181054/9333-TSO-2900664-NCSI_Report_FINAL.pdf)



## Proffered papers: Research and workforce

### SP08.1 Inspiring the next generation - what are the benefits to the researcher?

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In March 2020, the "Be Curious" public engagement event, was cancelled due to COVID19. Researchers were challenged to convert face-to-face stations with equally engaging online content. We chose REFLECTION for children to understand the concept and use of ultrasound. However, this subject can be dry, not only for small children! Reviewing online educational content for the age 6-12 category and available learning resources for physics in ultrasound, provided some home experiments, but not sufficient to engage children to "Be Curious" about Ultrasound. To captivate our audience online for 25-30min, we chose to explain the concept by researching ultrasound in bats, birds and cetaceans and drawing parallels with echolocation in the animal kingdom. We used the platform Zoom, scanning live, multiple objects that a child might recognise and engage with, such as sweets, fruit, plants, flowers, feathers, etc. embedded in jelly and a competition, judged live by Poll. Over 14 days, "Be Curious" hit roughly 150k impressions/views on Twitter of live events, podcasts and other interactive content. An estimated 130 research/academic staff were involved in creating content, collected on Padlet. Our Ultrasound Event was published on YouTube and shared for Medical Ultrasound Awareness Month #MUAM with BMUS. Post event analysis by online survey posed several thought provoking questions, five of which in particular will be explored in this poster. 1. Motivation for taking part? 2. Skills gained/developed? 3. Value of public engagement activities? 4. Be Curious as a stepping stone? 5. Will your Be Curious activity, feature when writing funding bids?

### SP08.2 Diagnostic and therapeutic radiography MSc dissertations -- a rich source of clinically relevant research and development

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The accomplishments of small-scale dissertation research projects are often underestimated. Here we present two recent projects; highlighting their clinical content and worth to inform/encourage radiographers in future studies and