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Proffered papers: Wellbeing and workforce

I7.1 Picturing the wellbeing of radiotherapy students on placement using emoji

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Background: Many Health professional students starting higher education in 2020 embarked on clinical placement with no prior face-to-face contact with peers. COVID-19 social restrictions undoubtedly impacted the mental wellbeing of young people. Attempts to evaluate wellbeing via conventional survey methods often result in poor engagement and do not capture regular fluctuations in emotional state. Increased use of smartphones for social interaction suggests that short message service (SMS) functionality can provide rapid data. This pilot project tested the feasibility and validity of gathering anonymous data from students concerning mental wellbeing on clinical placement via free text emoji and SMS.

Method: Year 1 radiotherapy students were asked to provide anonymous daily emoji representing their mental wellbeing via WhatsApp. Weekly prompts sought textual responses relating to factors impacting wellbeing. Post data analysis, participants were asked to complete a short anonymous online survey to validate researchers interpretation of responses and provide feedback on the method.

Results: Fifteen participants provided 254 emoji responses, using 108 different emoji; these were supported with weekly texts. 'Happy' emoji were used most frequently, with social interaction and levels of fatigue identified as important factors regarding wellbeing. Anonymity and opportunity to feedback via SMS were viewed positively, and the ease and rapidity of response engendered engagement throughout the 3-week study.

Conclusion: Use of emoji for rapid assessment of cohort mental wellbeing is valid and potentially useful alongside more formal evaluation mechanisms and individual support strategies. Capturing simple wellbeing responses enabled a wider cohort perspective to be established, and implementation of generic support.

I7.2 Meeting their needs? A qualitative exploration into the clinical support needs of mature therapeutic radiography students

Leah Untisz[1]; Amy Taylor[2]; Alex Robinson[3]

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Background: Attrition in radiotherapy education is traditionally high [1]. A compounding factor is the changing demographic of learners joining Higher Education Institutions (HEI) with an increasing number of 'mature' students aged 21+ returning to academia [2]. Previous research across healthcare programmes identified mature students often struggle to balance their studies with 'other' commitments thus requiring additional or different models of clinical support than school leavers [3]. To assess the support needs of mature students within radiotherapy and help review existing models, the research aimed to explore mature student experiences of support on clinical placement.

Method: A qualitative method underpinned by a constructivist epistemology was adopted to explore through semi-structured interviews, the lived experiences of mature student therapeutic radiographers. Host HEI ethical approval was obtained and eligible students undertaking their training at a single radiotherapy department were invited to take part.

Results: 11 interviews were completed (two male and nine female, age-range 21-45, mean-age 32). Four key themes emerged from the data; i) established models of support, ii) placement challenges, iii) positive training environment and iv) programme changes. Overarching, the themes illustrate that timely communication and a flexible approach would help students balance their other commitments. The findings also provide recommendations to support mature students including a "buddy system".

Conclusion: A conscious approach to the variations between students and flexible solutions to help support them to manage their situational variances will assist mature student retention and could be fundamental in achieving the Governments priority to increase Therapeutic Radiographer numbers to meet increasing service demand [4,5].

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I7.3 Is support continued from classroom to clinic? A neurodivergent call to action

Ben Potts

Birmingham City University

Background: Being neurodivergent (i.e., autistic, dyslexic, dyspraxic, have ADHD, etc) can present challenges in the neurotypical world. These challenges can be disabling and thus, in accordance with the Equality Act 2010, reasonable adjustments should be made. Adjusting academic elements of university studies is a thoroughly practised and rigorously researched topic. However, there is little work investigating the experiences of, and therefore support needed for, neurodivergent students on clinical placements. This is especially true in radiography research, which is pertinent considering the potential for neurodivergent disabilities to interact with the demands of the role. Worthy of note, there is no research exploring the experiences of autistic students, dyspraxic students or students with ADHD. Due to this, it is impossible to know what radiography-specific support is needed.

Purpose of poster: The poster is a call to action. It intends to expose the radiography research deficit and outline the possible issues with its existence. The aim is to raise awareness, provoke discussion and effect improvement of student experience and student retention.

Summary: The poster will convey the key conclusions from an extended literature review investigating the placement experiences of neurodivergent students from other healthcare professions. It will explain the current gap in knowledge and consider the impact this could be having on radiography education. It will challenge the reader by questioning what they are doing to support the neurodivergent student radiographers they teach, supervise or work with. Finally, it will offer evidenced guidance on methods of support taken from other healthcare professions.

Equality Act 2010 c. 15. Available at: hhttps://www.legislation.gov.uk/ukpga/2010/15/contents (Accessed: 10 December 2021).

I7.4 Educating diagnostic radiography undergraduates for the future workforce - are we hitting the mark?

Hilary Baggs; Dorothy Cox

University of Gloucestershire

Traditionally, undergraduate diagnostic radiography students are educated in a variety of plain film imaging techniques, to reflect the demand within the clinical department. Indeed, this is a requirement within the HCPC's Standards of Proficiency, for students to be able to perform the full range of standard imaging techniques. Whilst this is recognised as an essential role for the radiographer, and a skill all students need to master, there are, more recently, additional imaging modalities that students need to be proficient in. The HCPC's standards of proficiency also state that students need to be able to perform a standard head CT, which is normally assessed at level 6, just prior to qualification. These requirements seem to fall short of what employers want from a band 5 radiographer on qualification. In Sloane & Miller's (2017) study, service managers highlighted an increase in cross sectional demand, with placement structure not promoting quick enough application of skills. With the advent of newer technology and the proliferation of CT examinations, traditional education programmes are not preparing students for the future workforce and leaving employers responsible for much of their CT education. Within the newly launched programme at the University of Gloucestershire, there is a particular emphasis on CT scanning. On graduation, students will have completed assessments in CT head (level 5), multiphase CT and bolus tracked CT. This goes beyond the current requirements of the HCPC, but is addressing the need from employers and creating a radiographer who can hit the ground running in CT.

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2. Sloane, C., & Miller, P. K. (2017). Informing radiography curriculum development: The views of UK radiology service managers concerning the 'fitness for purpose' of recent diagnostic radiography graduates. *Radiography*, *23*, S16-S22. https://doi.org/https://doi.org/10.1016/j.radi.2017.05.013

I7.5 An evaluation of an 'independent study option' module in undergraduate diagnostic radiography

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University of Liverpool

Background: The importance of independent learning is emphasised in healthcare programmes internationally, with peer learning considered a useful support mechanism. Integration of theory and practice, while developing autonomous practitioners, who are effective communicators, are also essential. Additionally, the UK has seen increasing emphasis on student training within specialist imaging modalities, with rapidly increasing demand for these services. Enabling students to study a modality of their choice in depth could help inform future career pathway. A new 'Independent Study Option' within Year 2 of our undergraduate programme, incorporates these elements, initiating student directed, active learning, enhancing motivation to learn. Students select an imaging modality of interest, then evaluate its application in diagnosing a chosen medical condition. Additional clinical placements in the modalities enable direct links with practice. Assessment is via assignment and verbal presentation, developing communication skills. Peer seminars provide social constructivism and formative feedback, minimising disadvantages of independent learning. Direct relevance to clinical practice, along with development of communication skills through delivery of a presentation, add authenticity to assessment.

Purpose: The module completed its first iteration in May 2021, during the additional challenge of the COVID pandemic. A research project has been conducted with the aim of establishing the success of the approach in facilitating student learning, and potential impact on career pathway. The methodology was via focus groups run by an independent researcher. Data is currently being collated and analysed.

Summary: The outline of the module structure, and themes arising from the focus groups will be presented, along with future recommendations and implications for practice.

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I7.6 The importance of virtual simulation provided by the placement provider in reducing apprehension levels of students

Thomas Welton

Society of Radiographers (BigRadTom)

The constructs of clinical education for diagnostic radiographers has been somewhat pulled into question through this recent pandemic. with widespread staff shortages and clinical pressures hitting unprecedented levels, a fresh approach to the pedagogical approach is required. Routinely, extended reality (XR) simulated learning has been reserved to some HEI's due to the centralised nature of the educational delivery. With the need to expand student numbers into a volatile clinical environment, is it time to truly appreciate the importance of simulated learning to

maximise the students learning in a safe and robust manner. The purpose of this study is to highlight a best practice project that aimed to immerse the student in the clinical setting through virtual reality technologies. Outcomes from this project include an increased knowledgebase on the subject of intensive care imaging, understanding on roles and equipment within this area, imaging competence, as well as reducing apprehension towards working in this area. Embracing digital technologies in the clinical environment can support learning constructively. Although not designed to replace patient contact, digital technologies using XR can compliment the clinical curriculum. This study outlines experiences gained using XR technologies from a clinical placement provider. Proving the students openness to said sessions and it's effectiveness to reducing apprehension in a safe and constructive environment.

Proffered papers: Service delivery and late-breaking

J3.1 Development of a pan-London ST1 Pre-On-Call Assessment (SPOCA) and Training Modules

Cherry Sit[1]; Alan Campbell[2]; Jane Young[3]

[1]Guy's and St Thomas' NHS Foundation Trust; [2]University College London Hospitals NHS Foundation Trust; [3]Health Education England / Whittington Health NHS Trust

Background: Online education and training is now an established part of Radiology training. Starting out of hours (OOH) work in Radiology is a challenging time for junior radiology trainees and the level of knowledge and skills and the preparation and assessment varies across London's radiology training schemes. A recently published national trainee on-call survey [1] demonstrated an appetite for a "formal on-call assessment prior to commencing on-call work" amongst trainees and that "introducing a standardised and validated examination per scheme would highlight and facilitate more targeted practice in areas of deficiency prior to commencing on-call work."

Purpose: To develop pan-London virtual teaching events and online training modules and pan-London ST1 pre-on-call assessment (SPOCA), with comparison to existing local assessments. This will cover the major acute pathologies and systems so that all trainees have common access to high-quality, acute radiology training and are assessed similarly across the region. This is a current work in progress (as of December 2021), with a planned delivery date of early May 2022.

Summary: Examples of the teaching events, online training modules and assessment, including a description of the design process. A presentation of the initial outcomes and feedback from the pilot teaching and training events and assessment (with delivery planned by early May 2022). Presentation of the comparison between pan-London SPOCA and local assessments.

1. Tofeig, M. et al. (2021) National radiology on-call survey: a cross-sectional survey investigating diagnostic radiology on-call provision by trainees out of hours. Clin. Rad. 76(2021), 918-923.

J3.2 How will artificial intelligence change the practice of interventional oncology of the future?

Joshua Wong

Nottingham University Hospitals NHS Trust

Artificial intelligence (AI) is the use of computational algorithms to mimic human cognitive abilities and perform tasks which normally require human intelligence. From robotic surgery to clinical simulation training, AI has had a significant impact on healthcare provision. Interventional oncology is a field that has vastly benefited from the significant amount of research in AI. This poster aims to introduce AI and define branches of AI and their underpinning principles, such as machine learning and deep learning. This is followed by a review of the potential applications of AI in interventional oncology. One example involves a technique that integrates pre-procedural images with patients' clinical information, allowing prediction of therapeutic outcomes in patients with hepatocellular carcinoma undergoing trans-arterial chemoembolisation. Further techniques, such as the use of augmented reality to create USS-CT fusion-images to improve precision in image-guided procedures, as well as the recreation of three-dimensional anatomical holograms from pre-programmed CT/MRI scans to visualise tumour characteristics and key structures during oncological interventions, are described and evaluated. AI has the potential to enhance efficiency, efficacy and safety in the practice of interventional oncology. However, it also comes with limitations including regulatory barriers, a lack of data for training machine learning algorithms, hurdles to computer-physician integrating workflow, patient data confidentiality and ethical challenges. Most studies on AIs are performed under a controlled, laboratory environment.