SP08.5 Introduction to the new NIHR (National Institute for Health Research) imaging group and imaging research delivery workstream

Angela Darekar[1]; Louise Shalaby[2]; Stuart Taylor[3]

[1]University Hospital Southampton NHS Foundation Trust; [2]Manchester University NHS Foundation Trust; [3]University College London

Background: A new pan-NIHR Imaging Group has recently been launched. The group's aims are to develop an imaging community across the NIHR, contribute to scientific advances in imaging (including artificial intelligence), develop the imaging research workforce across all professional groups (radiologists, radiographers, medical physicists) and improve the delivery of imaging research across the NIHR infrastructure and NHS.

Purpose of poster: Imaging data is a precious resource that needs to be acquired (and analysed) efficiently and robustly, employing relevant expertise throughout the process (underpinned by appropriate funding), in order to answer clinical questions in a timely manner - thus providing confidence to our partners and patients that consistently high-quality imaging can be undertaken in the NHS to drive research forward. There is a need for this infrastructure to be more visible, connected and agile, and hence consistent and resilient, across the country. This poster will outline the stakeholders, aims and anticipated outcomes relating to the work of the imaging research delivery workstream - highlighting the multidisciplinary approach required to optimise this complex process. Establishing a model framework will help us achieve the wider aim of utilising imaging data, from every centre, to its fullest potential.

Summary of content: Content included in the poster will include an illustration of the complexity of delivering imaging research, an assessment of the current challenges across all modalities and types of research, the primary objectives of the workstream and some of the initial work being carried out to address these issues, including best practice recommendations.

SP08.6 Experiences from the first year of delivery; the degree apprenticeship in diagnostic radiography

Demelza Green; Christine Heales

University of Exeter

Background: Between 2017 and 2019 a Diagnostic Radiography Degree Apprenticeship Standard was developed by a national Trailblazer Group. This Standard was approved and published in April 2019 with the University of Exeter subsequently launching the first diagnostic radiography degree apprenticeship programme in March 2020.

The principle difference between the apprenticeship and traditional undergraduate routes is that apprentice learners are employees of a department with 80% of their time spent working and learning in the employing department. This necessitated a redesign of the conventional undergraduate programme structure with greater emphasis on the opportunities for learning within the workplace. As such, a blended learning approach with clearly defined 'academic' and 'workplace' modules has been used. Furthermore, there is a change in emphasis in some of the key pastoral, disciplinary and other governance aspects when comparing the degree apprenticeship with conventional undergraduate programmes.

Purpose of poster: The aim of this poster is to share initial experiences of the delivery of the degree apprenticeship in diagnostic radiography; so that prospective apprentices, employers and education providers may gain insight into the unique challenges as well as opportunities such a programme provides.

Summary of content: The experiences of the first year of delivery from the perspective of the apprentice, the employer and the education provider will be outlined together with the required changes in delivery method. Individual experiences together with reflection will identify areas of challenge that were encountered whilst also highlighting the benefits of this model of pre-registration education.\

Proffered papers: Patient experience

SP09.1 Establishing pregnancy for patients who are transgender or non-binary

Andrea Brammer

Manchester Foundation Trust

Background: An incident occurred where a male patient attended for a CT scan, which subsequently identified a pregnancy of approximately 15 weeks gestation. During admission to the Trust, the patient had not disclosed their transgender status. The incident was notified to the IRMER team at the CQC and an investigation was completed. Under the Gender Recognition Act 2004, it is a criminal offence to disclose a patient's previous gender without patient consent. This covers individuals who have made an application (for Gender Recognition Certificate GRC) to The Gender Recognition Panel as well as those whose application has had a successful outcome. The investigation

identified that there is no national guidance on the practical aspects for establishing pregnancy status for transgender or non-binary patients. This therefore provides some challenges for the radiology team when attempting to establish pregnancy status as required under the Ionising Radiation (Medical Exposures) Regulations 2017.
Purpose of poster: To share learning and experience for UKIO participants and throughout the radiographic community with a view to generating constructive discussion and guidance.
Summary of content: The poster will contain a confidential summary of the incident and investigation findings, the challenges identified and the changes that the individual Trust made in an attempt to ensure that transgender and non-binary patients are informed of the need to inform a member of staff if there is a possibility that they may be pregnant.

Gender Recognition Act 2004 c. 7. Available at: https://www.legislation.gov.uk/ukpga/2004/7/contents (Accessed: 29 October 2020).

SP09.2 LMP in a gender diverse world

Matthew Noonan; Kate Harrington; Benjamin Stuttard
Liverpool University Hospitals NHS Foundation Trust

Background: On 6th February 2018 IR(ME)R 2017 came into force. One notable change in the updated legislation was a change in the wording of the Employer's Procedures for making pregnancy enquiries to: "for making enquiries of individuals of childbearing potential to establish whether the individual is or may be pregnant or breastfeeding." The purpose of the wording change was to acknowledge and address the needs of a modern and gender diverse population, and in doing so ensuring that the safety of all individuals is maintained irrespective of how they choose to express their gender.
Purpose of the Poster: Our poster shall outline the stages and processes undertaken at our trust in the development and roll out of a SIGE type LMP form. These involved:

- Engagement with several Transgender/ LGBT community based groups
- An initial pilot study to trial the new form to assess Patient and staff feedback and support co-design of the new procedure
- An equality impact assessment
- Development of an awareness poster for patient waiting areas
- Staff training and engagement plan
- Initiation of an audit cycle to monitor compliance and opportunities for improvement

Summary of content: This poster outlines the processes undertaken by the trust in the design of a new style of LMP form and procedure. The form itself shall be included and the rational behind the questions and content of the form shall be included. A copy of the SIGE awareness poster shall also be included.

1. Ionising Radiation (Medical Exposure) Regulations 2017 (SI 2017 No 1322), London, HMSO
2. The Royal College of Radiologists. IR(ME)R: Implications for clinical practice in diagnostic imaging, interventional radiology and diagnostic nuclear medicine. London: The Royal College of Radiologists, 2020
3. Sanders, V., and Pedersen, S. (2018). Improving communication with the gender diverse community in diagnostic imaging departments. Radiogr. 24 Suppl 1, S3 - S6. DOI: 10.1016/j.radi.2018.04.011.
4. The Health Protection Agency, The Royal College of Radiologists, The College of Radiographers. (2009). Protection of Pregnant Patients during Diagnostic Medical Exposures to Ionising Radiation Available at:https://www.sor.org/system/files/documentlibrary/ members/sor_RCE-9_for_web_v2_April_2009
5. Equality Act 2010. (Queen's Printer of Acts of Parliament) Available at: https://www.legislation.gov.uk/ukpga/2010/15/contents
6. Gender Recognition Act 2004. (Queen's Printer of Acts of Parliament) Available at: https://www.legislation.gov.uk/ukpga/2004/7/contents

SP09.3 Working towards Pride in Practice within Imaging

Louise Shalaby
Manchester University NHS Foundation Trust

Background: Pride in Practice is a quality assurance, social prescribing programme developed and delivered by LGBT Foundation. The programme was designed to support primary care services to strengthen their relationships with LGBT patients. Manchester University NHS Foundation Trust (MFT) and LGBT Foundation partnered with an aim to improve the experiences of LGBT people, by ensuring that MFT services can meet their health care needs. The Division of Imaging was one of the departments selected to be involved in a pilot of the programme at MFT.
Purpose: To provide training and accreditation to the department demonstrating a commitment to LGBT inclusivity and to refine the model to be deliverable in Acute services. Enhancing patient experience by improving staff confidence in communicating and understanding the health inequalities and barriers experienced by the LGBT community when accessing health care. Face to face training was delivered from the LGBT Foundation which provided a core group of staff with key information to understand the LGBT+ community, inclusive language and how to provide support and reassurance to patients.
Summary of content:

- To discuss the benefits of Pride in Practice
- The accreditation process:
- Face to face learning
- Evidence available from the departments
- An inclusive culture
- Knowing your LGBT community
- Responsive services and customer care
- Increased the understanding of the diversity of our patients
- The benefits of diversity
- Radiology were awarded a bronze award in the first round of accreditation and are now working directly with the LGBT.

SP09.4 "Knowing the answers gives you hope moving forward": parental views on micro-CT scanning following miscarriage

Ian Simcock[1]; Celine Lewis[2]; Susan Shelmerdine[1]; Neil Sebire[1]; Owen Arthurs[1]
[1]Great Ormond Street Hospital for Children NHS Trust; [2]Population, Policy and Practice, UCL Great Ormond Street Institute of Child Health

Background: Following a miscarriage or stillbirth many parents want to know why their baby died, but do not want an invasive post-mortem examination. Micro-CT is a new imaging technique that can take detailed 3D images of the internal organs to try to find out why the baby died but requires iodine preparation which can cause skin discoloration. Providing some answers as to the cause of the miscarriage can help parents come to terms with their loss and determine whether future pregnancies will be affected.
Purpose of poster: To state the practical and emotional benefits of non-invasive post-mortem micro-CT scanning, as determined by parents who have experienced a miscarriage. The need for a clinical service to be made more widely available was demonstrated.
Summary of content: Details of the topics discussed during the focus groups included benefits of micro-CT, acceptability of the technique, concerns from the group and other areas deemed important to the participants. The overarching theme was the positive impact that micro-CT could make as a diagnostic technique by involving no cutting of the baby, yet providing highly detailed medical images. These can then provide answers to bereaved parents including that there may be no obvious cause of death. All the participants would have chosen the technique had it been offered to them. Within these themes we identified several sub-themes which related to the potential emotional and practical benefits of micro-CT. These groups provided important feedback for this developing clinical service and ensures that our research meets parents' requirements.

SP09.5 The implementation of a pre treatment education seminar for radiotherapy prostate cancer patient

Jacqueline Ogg[1]; Megan Graham[2]
[1]NHS Grampian; [2]Maggie's Aberdeen

Background: Coaching prostate radiotherapy patients to successfully perform pre-treatment preparations and achieve the desired treatment conditions, in keeping with their appointment times and treatment unit scheduling, is an ongoing challenge for therapy radiographers and patients alike. Written information and instruction resources for reading at home are still proving inadequate and failure to achieve the desired treatment conditions can cause increased stress and anxiety for patients. There is also the implication of repeated imaging if the conditions are not acceptable to safely deliver treatment at first attempt.
Purpose of poster: This poster aims to demonstrate the benefits of interactive pre-habilitation sessions for this patient group to help them better understand what is required of them for treatment. It will also explain why the collaboration of NHS and third sector supportive expertise is a more advantageous way of communicating the information than the written resources.
Summary of content: The poster will outline the main challenges that patients and staff experience in the clinical setting, the current interventions being used to address these challenges, the structure and content of the pre-habilitation sessions and the initial outcomes of this new intervention. It will also highlight how collaborative working between NHS and Maggie's professionals working from both the medical and psychological models of healthcare can benefit the same service users and improve their experience of the radiotherapy pathway.

SP09.6 Single centre survey of patient satisfaction during radical radiotherapy for head and neck cancer

Lisa Hay[1]; Philip McLoone[2]; Claire Paterson[1]; Frances Campbell[1]; Aileen Duffton[1]; Sophie Willis[3]

[1]The Beatson West of Scotland Cancer Centre; [2]The University of Glasgow; [3]University of London

Background: Radical radiotherapy (RT) for head and neck cancer (HNC) is extremely challenging for patients. This survey aimed to measure patient's experience and satisfaction during RT.

Method: HNC patients undergoing RT were included. Two surveys were undertaken using questionnaires. The first contained 22 questions with space for free text (distributed December 2019-March 2020). This questionnaire was amended to include 6 additional COVID-19 related questions (distributed June-November 2020). The questionnaires were completed at week 1 and the final week of RT; distributed by the team reviewing or treating the patients. Completed questionnaires were anonymous. Stata v14 was used for analysis. Tests were 2-sided with a p-value <0.05 considered statistically significant.

Results: In total 182 surveys were returned. Distress of attending daily for treatment was associated with distress from wearing the immobilisation mask (Spearman correlation r=0.62, p<0.0001). Distress attending daily and mask distress showed a weak inverse association with overall satisfaction, r=-0.34 (p=0.001) and r=-0.28 (p=0.008), respectively. Patients reporting high levels of distress about attending for radiotherapy, reported higher levels of anxiety about COVID-19 (r=0.40, p=0.005). Written information was received by 95.6% of patients. On a scale of 0 to 10 the median rating of ease at which written information could be understood was 10 (IQR 8-10). Patients who easily understood the written information expressed greater overall satisfaction (r=0.62, p<0.0001). The median overall satisfaction score at the final week was 10 (IQR 9-10).

Conclusion: Despite the difficulties RT for HNC presents, the majority of patients expressed high satisfaction with their treatment experience.

Proffered papers: Chest

SP10.1 Augmenting lung cancer diagnosis on chest radiographs: positioning artificial intelligence to improve radiologist performance

Tom Dyer

Behold.ai

Introduction: Lung cancer is a leading cause of cancer deaths worldwide, with poor survival rates in many developed nations. Many patients rely on early diagnosis of their lung cancer via chest radiographs (CXRs). Studies show that the majority of missed lung cancers occur on CXRs and are visible in retrospect. This study evaluates the role that artificial intelligence (AI) could play in assisting radiologists as the first reader of CXRs, increasing the accuracy and efficiency of lung cancer diagnosis by flagging positive cases before passing the remaining examinations to standard reporting.

Methods: A dataset of 400 CXRs including 200 difficult lung cancer cases was curated. Exams were reviewed by three FRCR radiologists and an AI algorithm to establish performance in tumour identification. AI and radiologist labels were retrospectively combined to simulate the proposed AI-triage workflow.

Results: When used as a standalone algorithm, AI classification was equivalent to the average radiologist performance. The best overall performances were achieved when AI was combined with radiologists, with an average reduction of missed cancers of 60%. Combination with AI also standardised the performance of radiologists. The greatest improvements were observed when common sources of errors were present, such as distracting findings.

Discussion: In this study, we show that our proposed AI implementation pathway stands to reduce radiologist errors and improve clinician reporting performance. Furthermore, taking a radiologist-centric approach in the development of clinical-AI holds promise for catching systematically missed lung cancers. This represents a tremendous opportunity to improve patient outcomes for lung cancer diagnosis.

SP10.2 Improving the accuracy of COVID-19 Chest X-Ray interpretation through online training

Huw Walters; Anita Acharya; Sarim Ather; Jasdeep Bahra; Rachel Benamore; Fergus Gleeson; Julia-Ann Moreland; Alex Novak

Oxford University Hospitals

Objective: The COVID-19 pandemic has demonstrated the need for healthcare professionals to learn quickly and adapt their skills to new challenges. Identification of COVID-19 on chest radiography (CXR) has a key role in patient pathways and is a key skill for clinicians. Report and Imaging Quality Control (RAIQC) is an online platform designed to improve reporting of CXRs. In this multi-centre study, we evaluated the utility of this platform for improving the speed and accuracy of COVID-19 identification on CXR.