This summary document details the information received from a NIMDTA Placement Quality (PQ) Survey sent to all Radiology trainees in July 2022: providing feedback from trainees on the Radiology training programme.

Clinical Radiology: NIMDTA Placement Quality Review 2022

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Executive Summary

In Northern Ireland, the percentage of doctors entering directly into specialty/GP training post-Foundation has fallen from 70.9% in 2011 to 34.3% in 2019[(1)] and in NIMDTA figures from 2022 show that only 11% of F2 doctors remained in specialty/GP training posts in Northern Ireland (NI). Despite this decline, radiology training in Northern Ireland (NI) remains a competitive and attractive specialty with a competition ratio of 42:1 for entry to the Radiology Training programme in 2022[(2)]. This compares favourably to the 2022 national competition ratio of 6.18[(3)]

The Radiology training programme in Northern Ireland recruits into ST1 and is a five-year run through programme, with trainees rotating between posts on a six- or twelve-monthly basis across all five Health and Social Care Trusts.

NIMDTA Placement Quality (PQ) reviews aim to add to the existing information available from NIMDTA deanery visits and GMC National Training Surveys to provide a more detailed specialty specific assessment of the quality of training posts in Northern Ireland, to facilitate development of strategies for further improvement of training delivery.

A Placement Quality review of Clinical Radiology in Northern Ireland was commenced in 2022. The current radiology training curriculum and educational framework was reviewed [(4,5)] and with additional feedback from the Head of School, Training Programme Director and Trainee representatives, a survey was compiled to assess the quality of current training placements. The survey covered the period August 2021-August 2022 and was circulated to all radiology trainees in the region. The results were reviewed and presented to each Trust individually, with good practice being highlighted and areas of improvement discussed.

In the 2021-2022 training year there were 52 posts in the Northern Ireland Clinical Radiology training programme. These posts are spread across 8 hospitals: **Belfast Health and Social Care Trust (BHSCT)**: Royal Victoria Hospital, Belfast City Hospital (BCH), Mater Infirmary Hospital (MIH), Musgrave Park Hospital (MPH); **Northern Health and Social Care Trust (NHSCT):** Antrim Area Hospital; **Southern Health and Social Care Trust (SHSCT):** Craigavon Area Hospital; **South Eastern Health and Social Care Trust (SEHSCT):** Ulster Hospital; **Western Health and Social Care Trust (WHSCT):** Altnagelvin Area Hospital. Of these 52 posts, 30 were ST1-3, 20 were ST4-5, 1 was ST6-8 and 1 was undertaking a period of grace following completion of training (CCT). The regional response rate was 88% (46/49). The balance of respondents was 62% ST1-3 trainees and 38% ST4+ trainees. Appendix 7 details individual Trust and site response rates.

Section 1 of this report summarises the results of the survey.

Section 2 highlights the identified good/transferrable practice and sets out the agreed local actions for improvement.

To ensure improvements are maintained and to assess the success of additional measures that have been introduced to further improve the training experience, the Placement Quality Team at NIMDTA will be conducting a further survey of all trainees in Clinical Radiology training placements in 2024.

Section 1: Analysis of Trainee Feedback

1. Post Information, Rota Allocations and Induction

Post Information

The Learning and Development agreement between NIMDTA and Local Education providers (LEPs) states that information relating to the allocation of trainees within training programmes should be provided to LEPs eight weeks in advance of the changeover date [(6)]. Regionally, the majority of trainees (58%) received their postings at least eight weeks prior to changeover, with 95% receiving their postings at least six weeks beforehand.

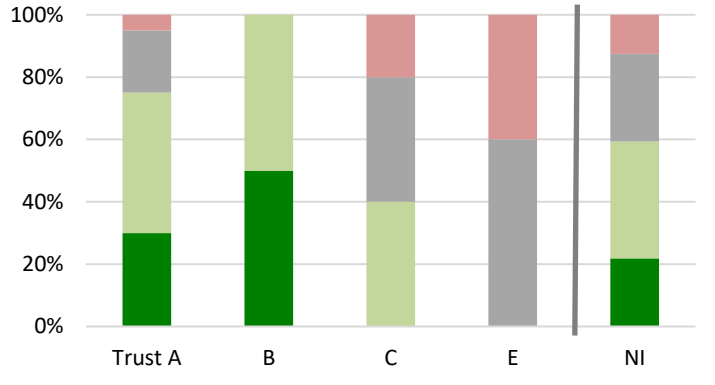
Prior to taking up their post, 68% of trainees felt they had sufficient information to make their placement preferences. Additional information about training posts prior to making placement preferences was requested by a quarter of trainees: this included more specific information about subspecialty training opportunities (26%) and resources available to facilitate QI projects (24%).

Rota Allocations

The Northern Ireland BMA Code of practice [(6)] recommends that doctors should receive their duty roster no later than six weeks prior to the start of their post. The NIMDTA education target prior to the survey was that all trainees should receive notification of what they would be working on the out of hours (OOH) on-call rota at least four weeks prior to commencing their post.

Trainee feedback indicated that timely notification by Trusts of out of hours (OOH) rotas is an issue with only 22% of trainees regionally receiving information about their OOH rota at least 6 weeks prior to post commencement: the majority of trainees (59%) did however report having received their out of hours rota at least 4 weeks prior to commencing their post. It is noted that 40% of trainees reported less than 4 weeks' notice of their OOH rota and of these 12% received less than 2 weeks' notice prior to starting their post (Figure 1).

Figure 1: Trust Notification of OOH rota



Good practice is noted in Trust B, where all trainees received their rota at least four weeks prior to changeover and 50% achieved the target of 6 weeks. In contrast in Trust C, 60% of trainees reported less than four weeks' notice of their rota prior to changeover, and in Trust E all trainees had less than 4 weeks' notice with 40% having less 2 weeks' notice prior to changeover.

Vacant slots on the rota were reported by 51% of trainees regionally. This involved all Trusts, with the exception of Trust E. Where gaps in the rota did exist, these were mostly filled by internal trainees already on the rota (46%). When asked about the impact of vacant slots in the rota, 52% of

trainees stated that it did not impact on their training. Where there was an impact, this was generally in the form of missed training opportunities (44%) and increased workload (16%).

Induction

The GMC Promoting Excellence document [7], states that organisations must make sure that learners have an induction for each placement that clearly sets out:

a. Their duties and supervision arrangements
b. Their role in the team
c. How to gain support from senior colleagues
d. The clinical or medical guidelines and workplace policies they must follow
e. How to access clinical and learning resources

As part of this process, learners must meet their new team and the other health and social care professionals they will be working with.

Regionally, the majority of trainees (89%) felt their unit induction was appropriate, providing a clear understanding of their roles and responsibilities. All trainees in Trust A, B, D and E felt their unit induction was appropriate, however the majority of trainees in Trust C (80%) reported that their unit induction was not appropriate, and they did not give them a clear understanding of their roles and responsibilities (Figure 2).

Figure 2: Unit Induction by Trust

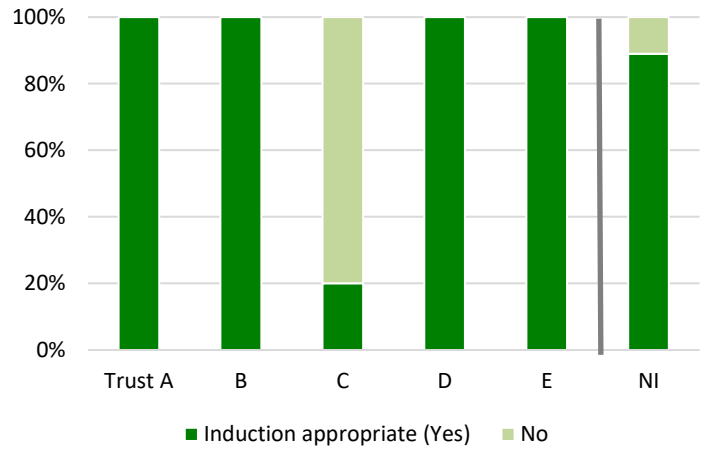
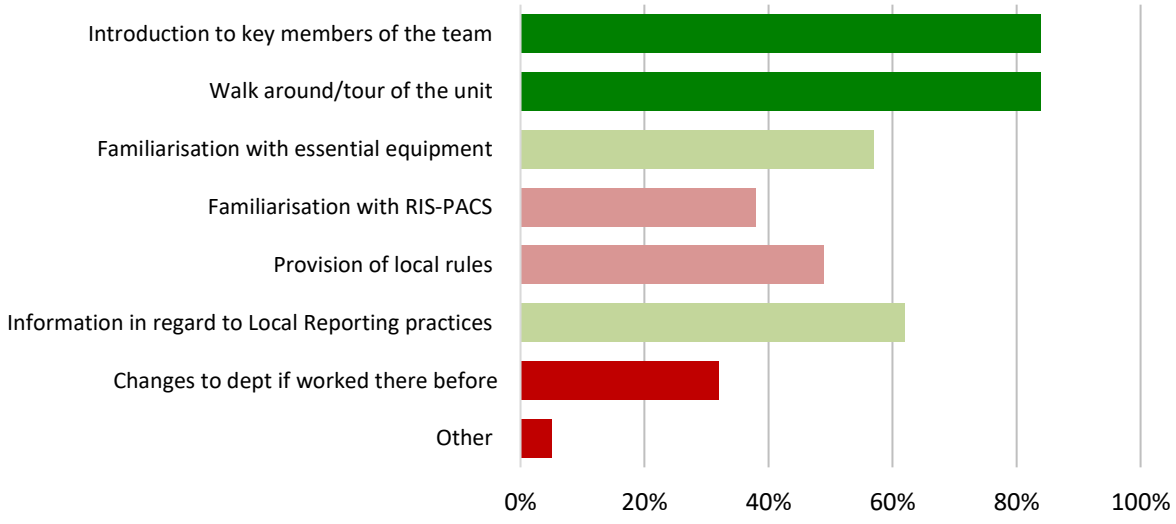


Figure 3 demonstrates what was included in induction at a regional level:

Figure 3: Components of Unit Induction



Trainee comments:

"Had a document regarding the department emailed in advance" – ST2 Trust A

"It's was vague with a long time spent talking about CTPA's, a lot of 'some people like things like this, some like it like that, you'll learn as you go along'. That's not helpful or a useful learning environment? It's better to know parameters we're working in from the start. Not allowed to approve CT's etc during the day, I came from doing ROD sessions where I approved anything I was capable of reporting (CT, MRI, US, plain film etc). It felt like a step back." – ST3 Trust C

"General enquiries are difficult, in that a consultant is only allocated for 2-4pm most days except Thursday. The enquiries from clinicians walking to the dept and phone enquiries are directed to the registrars by admin staff. Difficulty is created when there is no consultant available or willing to supervise the trainee doing an ultrasound of any body part. Requests for biopsies and drainages are frequently directed to the registrars. Unfortunately, this is less than ideal as supervision is needed and should be easily arranged. This is made more difficult when many consultants work from home even doing general enquiries from home." – ST4 Trust C

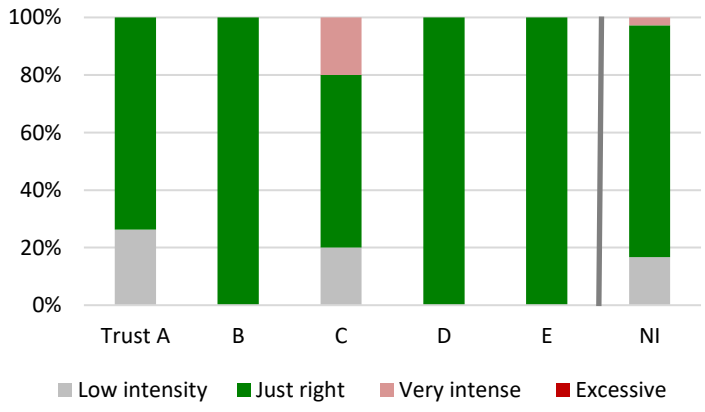
2. Clinical Workload

Radiology trainees have variable out of hours commitments which differs according to Trust, grade and level of experience. ST1 trainees do not perform on-call shifts. ST2 trainees perform on-call shifts, provided they have passed FRCR part 1 exam at ST1 level and have successfully completed a pre-on-call assessment. In addition to this, trainees in Trusts B and C are not required to do night shifts as part of their on-call rota, however they do work evenings and weekends. For this survey, trainees were asked to give information regarding intensity of work during four different working periods: during a normal day, during a long day, during a night shift and during a weekend.

<u>During the Day</u>

Regionally, during normal working hours, the majority of trainees (81%) reported that their work intensity was "just right". A single trainee in Trust C felt the work intensity during the day was "very intense". No trainee felt their work during the day was "excessive" (Figure 4).

Figure 4: Workload Intensity During the Day by Trust

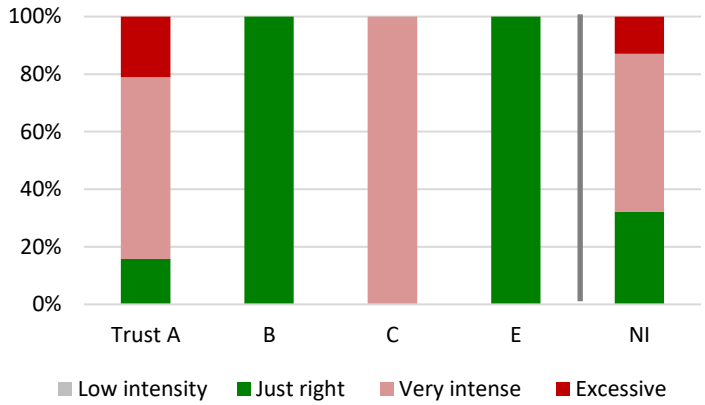


<u>During a Long Day</u>

For this analysis, ST1s were removed as they do not perform on-call shifts. The majority of trainees (68%) stated that their shifts on long days were "very intense" or "excessive". The remaining trainees (32%) felt that work intensity on a long day shift was "just right". No trainees felt workload during a

long day shift was of low intensity. Of note, all trainees in Trust B and Trust E reported work intensity as "just right". In Trust A, 84% of trainees felt that long days were "very intense" or "excessive". In Trust C, 100% of trainees felt the workload was "very intense" (Figure 5).

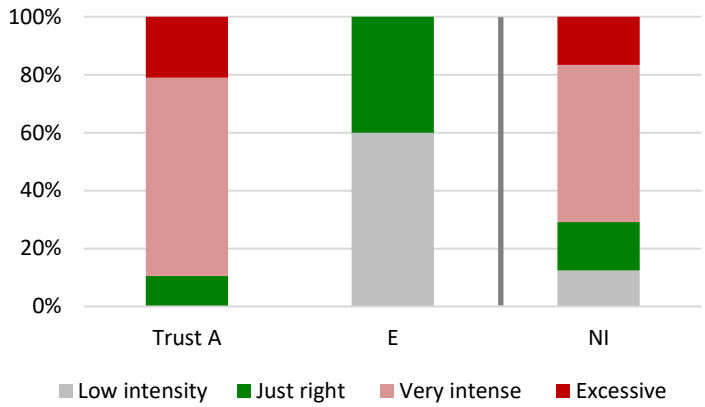
Figure 5: Workload Intensity During a Long Day by Trust



During a Night Shift

Trainees perform night shifts in Trusts A and E, so the remaining trainees have been removed from this analysis. As illustrated in Figure 6; the majority of trainees in Trust A felt that workload intensity during a night shift was "very intense" or "excessive", whereas 60% of trainees in Trust E reported workload to be of "low intensity". The remainder of trainees in Trust E reported workload intensity as "just right".

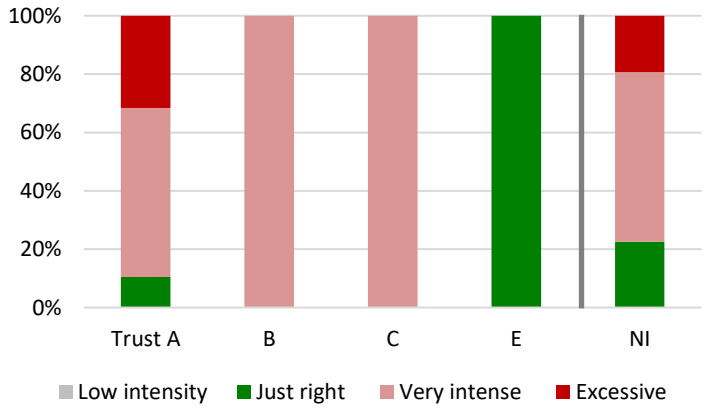
Figure 6: Workload Intensity During the Night by Trust



During the Weekend

ST1s were again removed from this analysis as they do not perform on call shifts. The majority of trainees (77%) stated that workload intensity on their weekend shifts was "very intense" or "excessive". This pattern was seen in all Trusts except for Trust E, where all trainees felt the weekend workload was "just right". All trainees in Trusts B and C felt the workload was "very intense" (Figure 7).

Figure 7: Workload Intensity During a Weekend



Trainee comments:

"I would recommend that the Monday after a full Saturday and Sunday LD on call weekend should be allocated as OFF to provide adequate rest and reduce trainee burnout. These shifts are particularly draining and many trainees go into work on Monday morning with nothing left in the tank" – ST4 Trust A

"I am relatively junior on this rota and it takes me longer to report and therefore my workload builds up faster. I would not say it gets excessive as there is always senior support for when I need help. Despite this, however, I recognise that the OOH workload for the Trust is large and demanding, and often with an unforgiving attitude from other specialties with regards to obtaining their imaging and expectation for immediate report" – ST2 Trust A

"No night shifts on this rotation. Day time work is variable in intensity, depending on the consultant supervising and how willing or happy they are for you to report on their list. There is core group of consultants who are open to trainees reporting additional studies and sending them to be checked and are more than happy to provide feedback." – ST4 Trust C

"Difficult to explain during the day or weekend with one tick box? Nothing happens until after 10/half because everyone's been scanned at night. But once the calls start they can be fairly relentless until end of shift. The workload varies more depending on what consultant you're with, if they help or don't. A normal working day can be a nice appropriate amount of work or constant interruptions through the reg phone, which appears to be an extension of general enquiries at all times. The worst part is there is no set person to refer these queries, that we are not allowed to approve, to as there is no ROD and a substantial amount of time the consultant on for general enquiries is working from home, so not physically available for face to face conversations with the clinicians. We don't work nights so there's no intensity at night. On calls (5-10pm) feel like and extension of 9-5pm. Clinicians expect any and all scans (even if routine) to be performed. Minimal point in trying to do otherwise when it's the standard here." - ST3 Trust C

"Intensity of shifts fine and well supported but shifts long (24hrs Friday/Saturday and till 0200 during week). Often called back in during night, but only banded 2b." – ST2 Trust E

Senior Support

Despite the workload intensity being high, the vast majority of trainees felt well supported by either more senior trainees or consultants: with good support from senior trainees and consultants being reported by 87% and 85% of trainees respectively. Rota complexity, multiple on call consultants and the needing to cover multiple sites was highlighted as an issue in Trust A. It was noted in Trust C trainees indicated that support can be consultant dependent.

Trainee comments:

"Yes, on most part (well supported), however when on-call with certain consultants then not well supported" – ST4 Trust C

"The greatest volume of scans is in the neuro/ ED pile. When work intensity is excessive more real-time consultant support in this workflow is required. [Site 1] body workload is usually ok however can become excessive if there are multiple traumas etc. [Trust D] consultants mostly do a good job of supporting on-call reporting. It is becoming increasingly difficult to provide paediatric imaging service unless there are x3 trainees in the building. If there are only x2 trainees and one has to go to paeds then the other gets slammed with referrals and reporting goes nowhere. Some of the paeds referrals are not appropriate given the volume of acute CT reporting and I would recommend that imaging outside of acute paediatric pathologies should be directly discussed with paeds consultant." – ST4 Trust A

3. Educational Supervision, Clinical Supervision and Feedback

Educational Supervision

Educational supervision is carried out on a regional basis, with a trainee's educational supervisor not necessarily coming from the Trust they are currently working. The vast majority of trainees rated highly both access to and quality of supervision from their named educational supervisor (ES).

All trainees were able to meet with their named ES both at the beginning and at the end of the academic year. One trainee responded that they did not, however they were not in training for the full post, so were removed from this analysis. Only 14% of trainees reported not having a midpoint meeting.

All trainees regionally felt the quality of educational supervision was "satisfactory", with the majority of trainees (81%) reporting that it was "above average" or "excellent". This meets NIMDTA's education target of 90% or more trainees having at least satisfactory educational supervision.

Trainee comments:

"Hour long meetings three times a year, supportive and approachable, thorough with portfolio" – ST1 Trust A

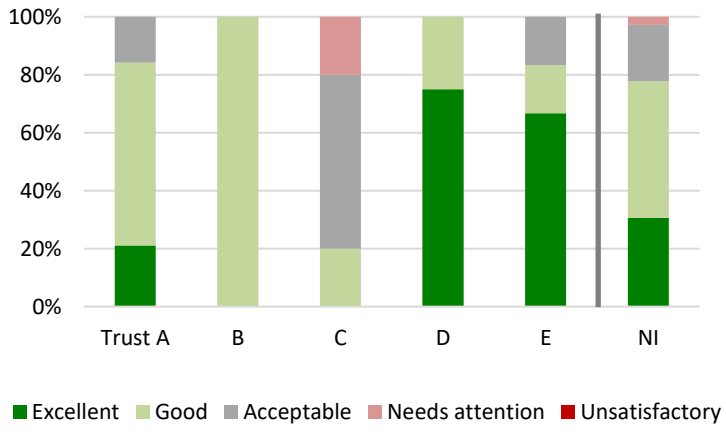
"My educational supervisor has been very supportive throughout this year and I appreciate her effort" – ST3 Trust C

"Excellent ES. Organised and set out goals and expectations for the year as well as tips and advice on how to achieve them" – ST2 Trust E

Clinical Supervision

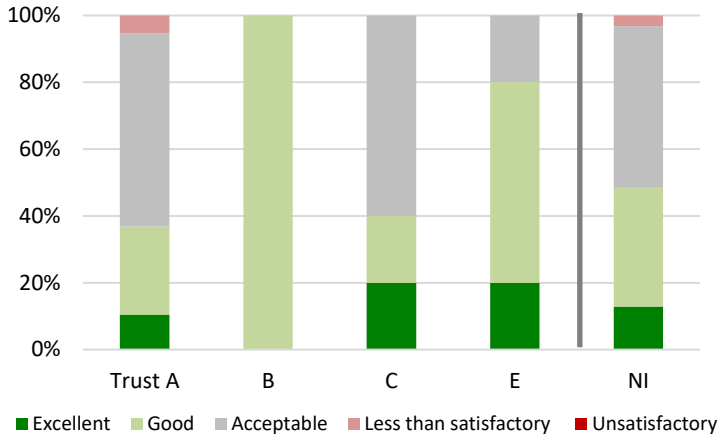
Trainees were asked about the quality of their clinical supervision both during normal working hours, and also during out of hours work. As illustrated in Figure 8; regionally the majority of trainees (78%) rated their clinical supervision during normal working hours as either "good" or "excellent" and a further 19% reported it as "acceptable", only one trainee responding that it was "less than satisfactory" (Trust C). There was variation between Trusts, with it noted that the majority of trainees in Trust D and E felt that their clinical supervision during the day was "excellent", while in Trust C the majority (60%) gave an "acceptable" rating.

Figure 8: Clinical Supervision During the Day



Similar to previous sections on out of hours work, ST1s have been removed from this analysis. Of those trainees who perform out of hours work. Regionally, 48% felt it was "acceptable", with 48% rating it as "good" or "excellent". One trainee in Trust A felt that supervision was "less than satisfactory" with no trainees regionally responding "unsatisfactory" (Figure 9).

Figure 9: Clinical Supervision Out of Hours



Trainee comments:

"There's a core group of consultants who are physically present at work. The consultants who come into work are generally supportive and approachable and that's why I've leaned towards acceptable. But this answer is honestly between acceptable and needs attention" – ST3 Trust C

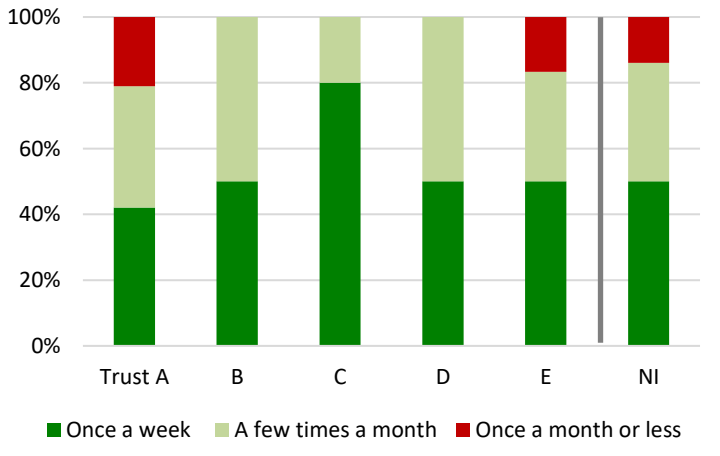
"Very good by a small number of consultants, however often very few consultants in department" – ST4 Trust C

"Again, this is between acceptable and needs attention. I think an ST1/2 would struggle here. Some consultants provide great help, communicate throughout the shift through the chat system or calls, some are uncontactable and log in at the end of the on call to sign off the reports" – ST3 Trust C

Feedback

Feedback, both formal and informal, occurred on a regular basis and was of high quality (Figure 10). Regionally, 86% of trainees reported receiving either formal or informal feedback on their performance at least a few times a month, with half of trainees receiving feedback at least once a week. The remainder reported receiving feedback once a month or less.

Figure 10: Frequency of Feedback by Trust



Of note, all trainees in Trusts B, C and D reported receiving feedback at least a few times a month with the majority (80%) in Trust C receiving weekly feedback. All feedback was described as "constructive and supportive" or "improved my clinical practice/developed my leadership skills".

Trainee comments:

"Would like more detailed individual feedback on my day to day reporting. Often have to read through changes reports to identify things that I need to address." – ST2

"Feedback is fantastic: get almost daily feedback and mentorship." – ST5

"Feedback, while not frequent, was useful in the main. Those who took time to give feedback were attentive, constructive and timely. Some feedback more indirect, i.e. via email, and more difficult to translate into practice." – ST1

The majority of trainees did not have any difficulty getting the number of Workplace Based Assessments (WPBAs) required for progression (83%). Those that did have an issue described difficulty in getting consultants to complete online forms.

4. Formal Teaching and Educational Opportunities

Teaching is an integral part of training, as outlined by GMC Promoting Excellence: standards for medical education and training (section R1. 16) [7]

"Doctors in training must have protected time for learning while they are doing clinical or medical work, or during academic training, and for attending organised education sessions, training days, courses and other learning opportunities to meet the requirements of their curriculum. In timetabled educational sessions, doctors in training must not be interrupted for service unless there is an exceptional and unanticipated clinical need to maintain patient safety".

Regional Teaching

Regional radiology teaching includes dedicated sessions for FRCR Part 1 and Part 2 exam preparation. Regional teaching for FRCR Part 1 was applicable for five trainees and all were able to attend over 75% of the sessions. FRCR Part 2 teaching was applicable for eighteen trainees and all reported being able to attend these sessions. This is well above the NIMDTA education target of 50% or more trainees being able to attend 50% or more sessions.

For those trainees attending regional FRCR teaching sessions, most reported being able to attend during working hours (i.e. not during their free time). The most common barrier to attendance was on call commitments, reported by 80% of trainees.

Local Teaching

Trainees were asked to quantify the number of hours per week of protected local teaching available in their post. This could include departmental teaching, journal club, morbidity and mortality meetings, multi-disciplinary meetings and REALMS meetings. NIMDTA's education target was for 50% or more of trainees to have at least 2 hours per week of protected local teaching. Regionally, 65% of trainees reported having at least 2 hours per week of protected teaching time, with 38% reporting at least 3 hours per week (Figure 11). There was variation between Trusts in the amount of protected local teaching being delivered. It is noted that all trainees in Trust B reported at least 3 hours per week of protected local teaching and all trainees in Trust E reported at least 2 hours per week, figures above the regional average. In Trust A and C however, it is noted that 35% and 40% of trainees respectively, reported having less than 1 hour per week of protected local teaching. There

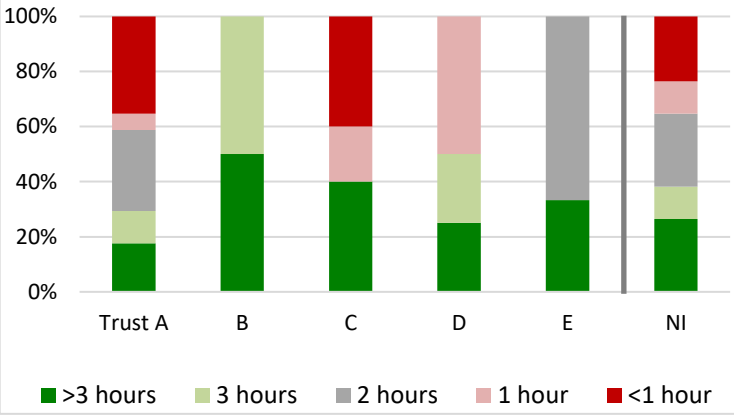
was a discrepancy between grades in Trust A, with more junior trainees (ST1-3) being able to attend teaching more regularly than more senior trainees (ST4+).

Good consultant involvement in local teaching was reported regionally with the majority of trainees (71%) reporting that consultants were "always/usually present" at local teaching.

In addition to protected teaching time, just over half of all trainees (53%) reported informal 1:1 consultant teaching took place during sessions either every day or several times a week, with 88% reporting informal 1:1 consultant teaching at least once a week.

Overall, when local teaching occurred it was of high quality, with 91% of trainees reporting that local teaching was interesting. Of these, roughly half felt it was also relevant to their role, and occurred weekly, with the other half reporting that it was interesting, relevant to their role, but didn't occur weekly.

Figure 11: Number of hours per week of protected local teaching time



Trainee comments

"No departmental teaching, or journal club. Monday MDT attended a few times and presented once. Leave on a Tuesday for teaching so miss meeting then, off Wednesday, on a different site on Thursday. In retrospect, should have explored opportunity to attend other sites teaching via zoom/teams. Attend Trust REALMs when on via online attendance" – ST2 Trust A

"Attended every REALMS, M+M meeting in the placement. Also had regular departmental teaching by clinical supervisor" – ST4 Trust B

"Only organised dept teaching is by a locum consultant who does it in his own time most weeks" – ST4 Trust C

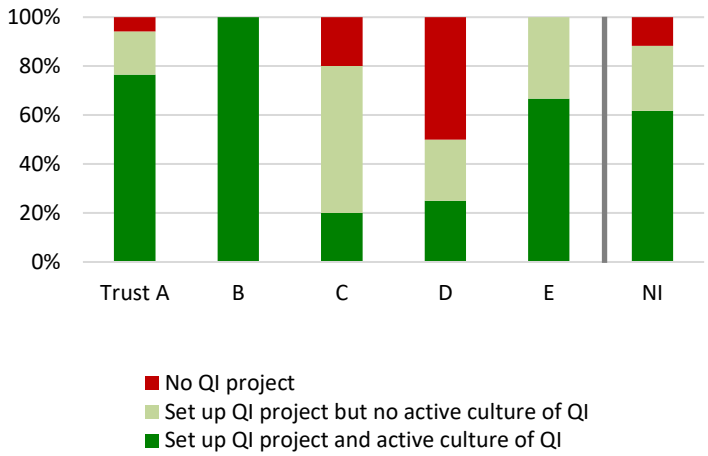
"A rostered teaching rota. No one seems to have any interest in providing teaching post-exam e.g. journal club, new research, review articles etc. This could be provided as a breakfast meeting pre-work or at lunchtime. Corporate engagement in IR is better (new devices etc)" – ST4 Trust A

"There need to be consultants present in the department and willing to interact with trainees. the core group who are in most days are usually bombarded to do extra work, I would not feel it fair to ask them to do dedicated group teaching". – ST4 Trust C

Posters, Presentation, Research and Quality Improvement (QI)

Regionally, 47% of trainees reported that they were able to undertake posters, presentations or research within their posts, with 26% reporting an active culture within their unit to do so. Regionally however, the majority of trainees (88%) report being able to set up QI projects, as required in the Royal College of Radiologists (RCR) curriculum and 62% describing an active culture of QI within their unit (Figure 12). In Trust D, half of trainees were unable to set up a QI project. In Trust C, 80% were able to set up a QI project despite 80% of trainees stating that there was not an active culture of QI. In Trust B, all trainees were able to set up a QI project and there was an active culture of QI within the unit.

Figure 12: Quality Improvement by Trust



5. Training Opportunities (Capabilities in Practice)

The Royal College of Radiology Curriculum [4] states "the practice of clinical radiology requires the generic and specialty-specific knowledge, skills, attitudes and procedural competency to diagnose, and sometimes manage, patients referred for imaging to investigate a wide range of symptoms and conditions and perform image guided procedures". To achieve CCT, trainees need to demonstrate achievement of specialty-specific high-level outcomes, known as "capabilities in practice" (CiPs), which describe the professional capabilities of a consultant radiologist.
Generic and specialty-specific CiPs evaluated in this survey include the ability to:

- Appropriately select and tailor imaging to patient context and the clinical question
- Provide timely, accurate and clinically useful reports on imaging studies
- Appropriately manage imaging examination lists/procedures according to clinical need and professional expertise (including anaphylaxis and resuscitation)
- Evaluate image quality and utilise the knowledge of imaging sciences to optimise image quality
- Safely manage the imaging and image-guided intervention needed to support emergency care
- Effectively contribute a clinical/imaging opinion to a multidisciplinary team (MDT) meeting
- Act as a clinical teacher and supervisor
- Engagement in reflection, clinical governance and quality improvement processes to ensure good practice.

Regional Data: Figures 13 and 14 illustrate the regional survey responses to questions about access to training opportunities to meet CiPs and the quality of training in CiPs. Those who answered "not applicable" have been removed from the analysis.

Trust Data: Appendices 3 and 4 detail the Trust responses.

Figure 13: Regional Access to Specialty Specific CiPs

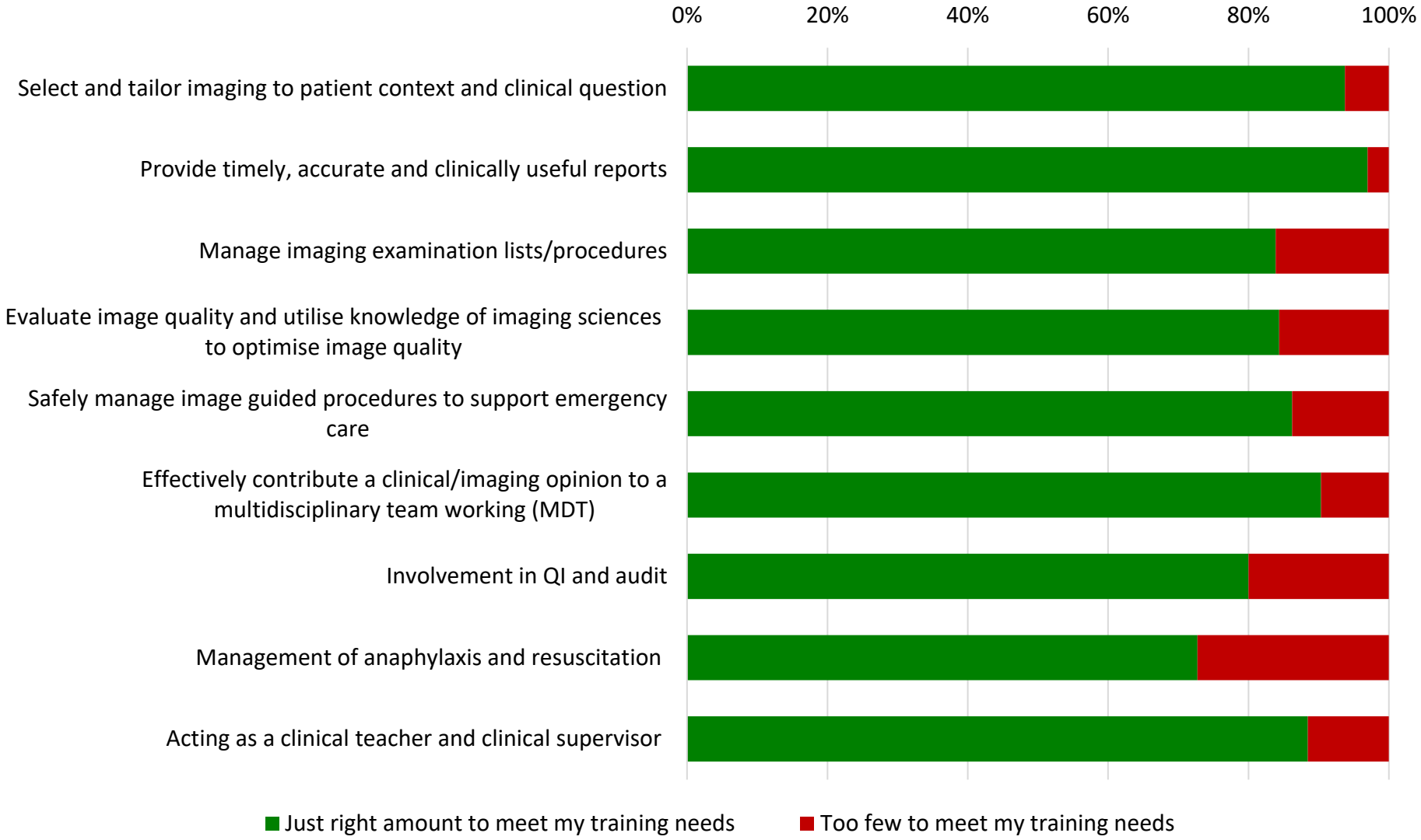
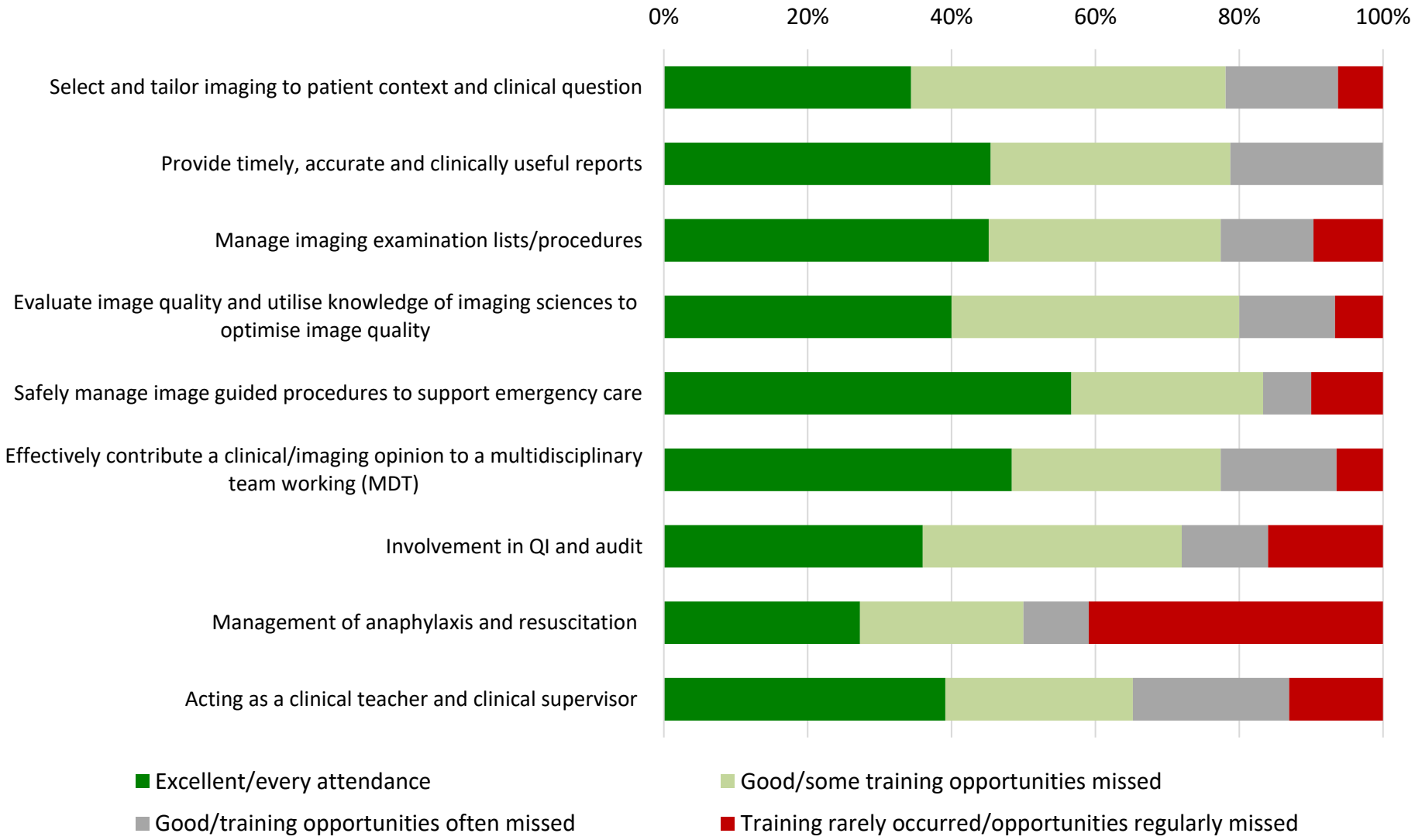


Figure 14: Regional Quality of Training in Specialty Specific CiPs



1. Select and tailor imaging to patient context and clinical question(s)

Regionally, trainees have reported good access to this CiP with 94% of trainees reporting that there was just the right about to meet their training needs. In Trust C, 25% felt there were too few opportunities to meet this CiP. Regionally the quality of training in this CiP was high with training reported as either excellent and occurring at every attendance or good with training occurring at all or the majority of attendances. Of note, in Trust C, 50% of trainees felt that training rarely occurred and opportunities were often missed.

2. Provide timely, accurate and clinically useful reports

Regionally, 97% of trainees reported that there was just the right amount of training opportunities (TOs) to meet their training needs. The majority of trainees (79%) also described the quality of training as either good, with some training opportunities missed or excellent and occurring at every attendance however, 21% of trainees reported that TOs were often missed – particularly in Trust C where 60% of trainees gave this response.

3. Manage imaging examination lists/procedures

Regionally, 84% of trainees felt there were enough training opportunities to meet their training needs, with all trainees in Trusts B, D and E reporting sufficient TOs. Regionally, 77% of trainees rated the quality of training in this CiP as good, with some training opportunities missed or excellent and occurring at every attendance. In particular all trainees in Trust D and 80% of trainees in Trust E felt training was excellent in this domain.

4. Evaluate image quality and utilise knowledge of imaging sciences to optimise image quality

The majority of trainees (84%) felt that there was just the right amount of opportunities in this CiP to meet their training needs. Again, the majority (80%) felt that the quality of training was good, with some training opportunities missed or excellent and occurring at every attendance. Of the 20% who answered that training opportunities were often missed, or that training rarely occurred, 50% of these were from Trust C. Of note all trainees in Trust D and 80% of trainees in Trust E felt that training in this CiP was excellent.

5. Safely manage image guided procedures to support emergency care

Regionally, 86% who felt that this CiP was applicable felt they had just the right amount of access to meet their training needs. Over half of trainees felt that the quality of training in this domain was “excellent”, and a further 27% reported it was good, but some training opportunities were missed. Two trainees in Trust C reported that training rarely occurred in this CiP.

6. Effectively contribute a clinical/imaging opinion to a multidisciplinary team working (MDT)

Again, most trainees at a regional level felt that they have sufficient access to training in this CiP, with 90% of those who responded stating there was “just the right amount” to meet their training needs. Quality of training was high, with 77% stating that training was either good, with some training opportunities missed or excellent and occurring at every attendance. A quarter of trainees in Trust A felt training occasionally occurred, but opportunities were often missed, and 2 trainees in Trust C felt training rarely occurred.

7. Involvement in QI and Audit

The majority of trainees (80%) had good access to QI and Audit opportunities. Quality of training was either good, with some training opportunities missed or excellent and occurring at every attendance. All trainees in Trust C who felt this was applicable stated that training rarely occurred.

8. Management of anaphylaxis and resuscitation

A significant proportion of trainees (33%) answered "not applicable in this current post" to this question. Of trainees that responded, 27% reported that there were too few opportunities to meet their training needs and 73% felt there was just the right amount. Of note all trainees in Trust D felt that training in this CiP was excellent. Regionally however, half of the trainees who responded, reported that training opportunities were often missed or that training in this CiP rarely occurred.

9. Acting as clinical teacher and clinical supervisor

Again, a significant proportion of trainees answered "not applicable in this current post" for this CiP. Of those that did feel it was applicable, 88% felt there were "just the right amount" of training opportunities to meet their training needs, this was spread across all Trusts. Two thirds of trainees (65%) felt that the quality of training was good, with some training opportunities missed or excellent and occurring at every attendance.

Access to Imaging lists

Regionally one third of trainees expressed difficulties accessing sufficient imaging lists to meet their training needs within their post (Table 2). Of these, 41% were in Trust A and 60% were in Trust C

Table 2: Difficulties accessing sufficient imaging list to meet training needs

NI	TRUST A	TRUST A	TRUST C	TRUST D	TRUST E
33%	41%	0%	60%	0%	17%

It is noted that a high level of consultant supervision at imaging lists was reported across all sites, with 82% of trainees reporting that a consultant was always present.

Trainee comments:

"Primary concern was preparation for impending on call. CT lists in [Site 2] were majority outpatient with scattered, usually very complex, inpatient studies. Feels like at our stage of training this was not the ideal scenario to meet training needs/PDP goals. Day in the [Site 4] was useful but did not always feature CT list due to outsourcing. Other areas were good, particularly opportunities for image guided procedures" – ST1 Trust A

"Expanded practice radiographers "taking away" learning opportunities. Too many radiology registrars/cardiology registrars wanting to do cardiac CT in the same hospital, have to fight for experience and pay lots of money for external courses (which are only partially reimbursed) to ensure got sufficient experience." – ST5 Trust A

"Not really However 6 relatively senior (ST3+) regs in one post meant there was frequent competition accessing certain lists / procedures" – ST3 Trust C

"Not enough ultrasound or MRI lists. The ultrasound lists often have short slots without sufficient time for learning. Some lists are reported as well as some procedures performed by radiographers which limits numbers."- ST2 Trust E

"Consider anaphylaxis/ resuscitation session at start of each rotation." – ST4 Trust A

"It would have been useful to manage imaging requests and protocol requests to get used to acting as Radiologist of the day"- ST4 Trust B

6. Training Opportunities (Practical Procedures)

The RCR curriculum states that there are a number of practical procedures in which competence should be developed. These are stage dependent and may not be applicable in every unit. We surveyed trainees on their access to training opportunities in these procedures, as well as other important radiological skills, and the quality of training if it did occur.
Trainees were asked about access to training opportunities and the quality of training in the following:

- Plain film imaging/reporting
- CT Imaging
- MRI imaging
- Ultrasound
- Radionuclide imaging
- Image guided biopsies
- Image guided drainage
- Image guided vascular access and basic catheter/wire manipulation
- Contrast studies of lines and tubes
- Contrast studies of the adult GI ad GU tract
- Contrast studies of paediatric GI and GU tract

Figures 15 and 16 illustrate trainee responses to questions regarding access to and quality of training in the above procedures. Trainees who answered “not applicable” have been removed from the analysis.

Trust Data: Appendices 5 and 6 detail the Trust responses.

Figure 15: Regional Access to Training in Practical Procedures

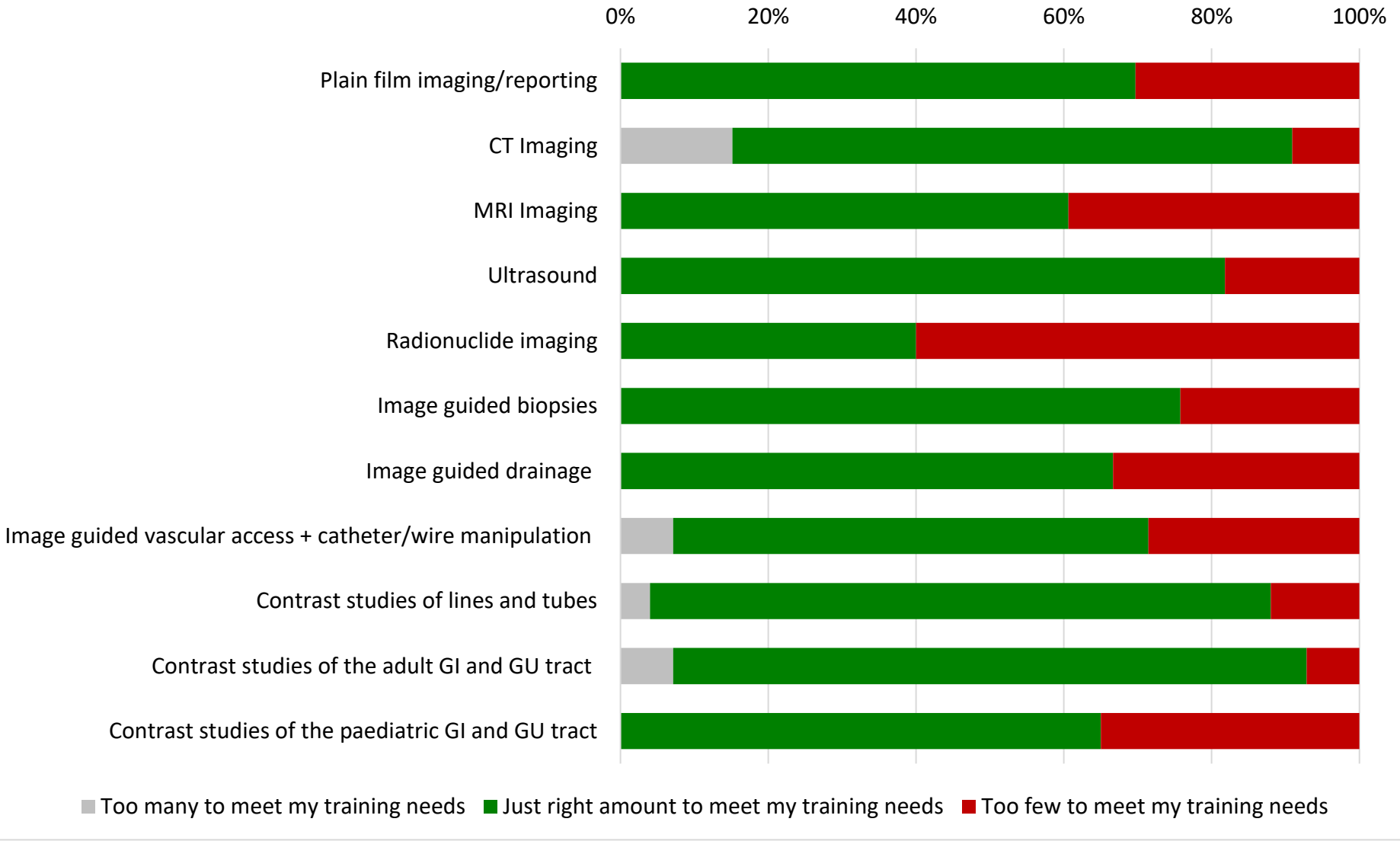
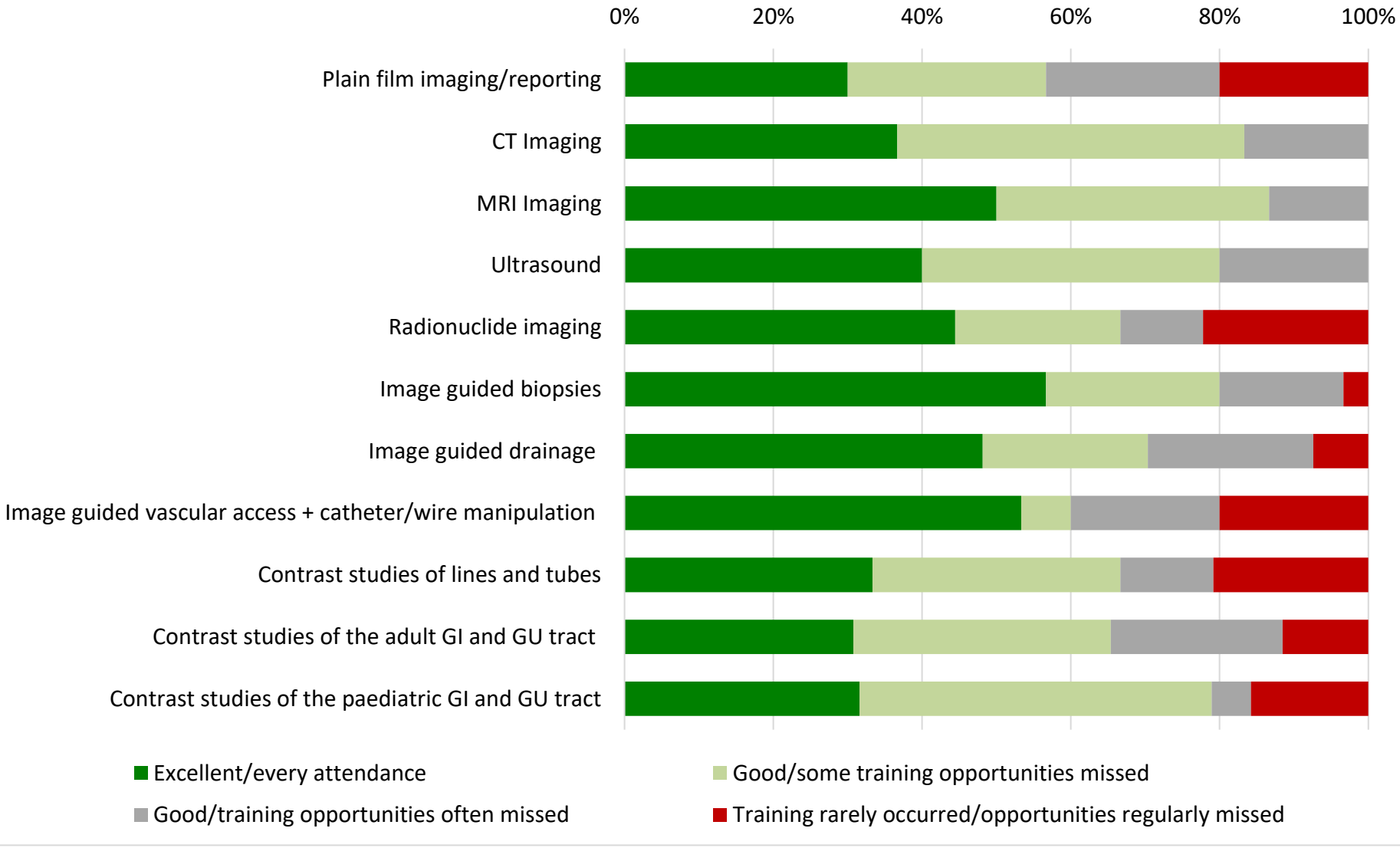


Figure 16: Regional Quality of Training in Practical Procedures



1. Plain film imaging/reporting

Regionally, 70% of trainees felt that there was the right amount of access to training opportunities for plain film imaging/reporting. A significant proportion of Trust A (41%) and Trust C (60%) felt there were too few opportunities. The quality of training in this domain was reported as good, with some training opportunities missed or excellent and occurring at every attendance by 55% of trainees, with 45% reporting that training opportunities were often missed or training rarely occurred. Of note, all trainees in Trust B and D and 80% of those in Trust E felt training was "good" or "excellent". In Trust C however, 60% of trainees stated that training opportunities were often missed or training rarely occurred and this was also reported by the majority of trainees in two units in Trust A.

2. CT Imaging

Regionally, across all Trusts, the vast majority of trainees (91%) had sufficient access to training opportunities in CT imaging. In Trust C however, 60% of trainees reported too many training opportunities for CT imaging, exceeding what was required to address their training needs.
Good quality training in CT imaging was reported by 83% of trainees. Of the 17% of respondents who felt that training opportunities were often missed, all of these were in Trust A.

3. MRI Imaging

Regionally, 70% of trainees reported having sufficient access to training opportunities for MRI imaging. It is noted that in Trusts B, D and E all trainees reported sufficient training opportunities to meet their training needs. In Trust A however, a significant proportion of trainees (59%), felt that training opportunities were limited in this area, above the reported regional figure of 39%.
Quality of training in MRI was high regionally, being reported as "good" or "excellent" by 87% of trainees. In Trust A, although access to training opportunities was reported as limited, when it did occur it was of high quality, with 75% of trainees assessing training as good, with some training opportunities missed or excellent and occurring at every attendance.

4. Ultrasound

Regionally, most trainees reported sufficient training opportunities in Ultrasound (82%). Of the trainees who felt there were too few opportunities, 50% were in Trust C. Quality of training in this Trust was also highlighted, with 50% of trainees stating that training opportunities were often missed. Elsewhere, regionally, 80% of trainees felt training was good, with some training opportunities missed or excellent and occurring at every attendance**.**

5. Radionuclide Imaging

Radionuclide imaging is provided in a limited in a number of Trusts, consequently a significant proportion of trainees (55%) answered "not applicable in this current post" in relation to this practical procedure. Where radionuclide imaging was available, 60% of respondents felt there were too few training opportunities to meet their training needs, with just over half (56%) of these trainees being from Trust A. The quality of training, when it did occur was reported as "good" or "excellent" by two thirds of respondents (67%).

6. Image Guided Biopsies

At a regional level 76% of trainees felt there were sufficient opportunities in image guided biopsies to meet their training needs and in Trust B this figure was 100%. The quality of training was high, with 80% of trainees at a regional level reporting that training was "good" or "excellent". Of note,

63% of trainees in Trust A felt that training was "excellent". In Trust C however, the majority of respondents (75%), indicated that training opportunities for this procedure were often missed.

7. Image guided drainage

Regionally, two thirds of trainees reported that there was just the right amount of training opportunities in image guided drainage and 70% felt that the quality of training provided was "good" or "excellent". In Trusts A and E, figures were above the regional average, with 85% and 100% of trainees respectively indicating that the quality of training in this procedure was "good" or "excellent" by. In contrast, in Trust C this figure was only 20%, with 80% of trainees reporting insufficient training opportunities for this procedure and all trainees reporting that training opportunities were often missed.

8. Image guided vascular access and basic catheter/wire manipulation

A significant proportion of trainees (58%), felt this procedure was not applicable in their current post. Of those that felt it was applicable, 71% reported that there was just the right amount to meet their training needs. There was variation between Trusts with 88% of trainees in Trust A and 100% in Trust D reporting sufficient access to TOs, above the regional figure. In Trust A, 75% of trainees felt that training was "good" or "excellent", above the regional figure of 60%.

9. Contrast studies of lines and tubes

Regionally, the majority of trainees (88%) felt that access to TOs in these procedures was sufficient to meet their training needs. This was consistent across all Trusts. Two thirds of trainees reported that the quality of training in this area was "good" or "excellent", with that figure being 100% for trainees in Trusts B and E.

10. Contrast studies of the adult GI and GU tract.

In this domain, 93% of trainees regionally felt they had sufficient opportunities to meet their training needs. Again, this was generally consistent across all Trusts. A small number of trainees (7%) felt there was excessive exposure – particularly in Trust A. Regionally, 65% of trainees felt that quality of training was good or excellent, and is noted that this included all trainees in Trusts B, D and E. In Trusts A and C however 50% and 75% of trainees respectively felt training opportunities were often missed or training rarely occurred.

11. Contrast studies of the paediatric GI and GU tract

This was not applicable to 39% of trainees surveyed. Of those to whom it was applicable, 65% felt there was just the right amount to meet their training needs. This figure was noted to be higher in Trusts A (88%) and D (100%). In contrast, trainees in Trusts C (67%) and E (67%) felt that there were too few training opportunities to meet their needs. Generally training was of high quality, with 79% of trainees stating it was either good, with some training opportunities missed or excellent and occurring at every attendance.

Trainee comments:

"These procedures often happened as hoc as they were few in number anyways to get a good number of procedures is difficult. A culture of always involving the regs could help to improve this no matter what other lists they are on." – ST2 Trust E

"90% of my US lists were breast. I like breast I'm not complaining about being on breast lists. But I do also need to get general training to be a well-rounded consultant" – ST3 Trust C

"Plain film reporting- little direct feedback, teaching sessions would be helpful for junior trainees." – ST1 Trust A

"More stratified nuclear medicine rotation is required for trainees (throughout deanery)" – ST4 Trust A

Interventional Radiology curriculum (ST4-6)

Of all the trainees surveyed, 5 indicated that they were on the IR curriculum. Of these, none had any issues accessing any specific procedures to meet curriculum requirements.

7. Patient Care & Safety

All trainees surveyed reported that there was a culture within their department to raise concerns about patient safety or the quality of patient care. Regionally, 61% had not been shown how to use their Trust incident reporting system, however many had been shown in previous posts.

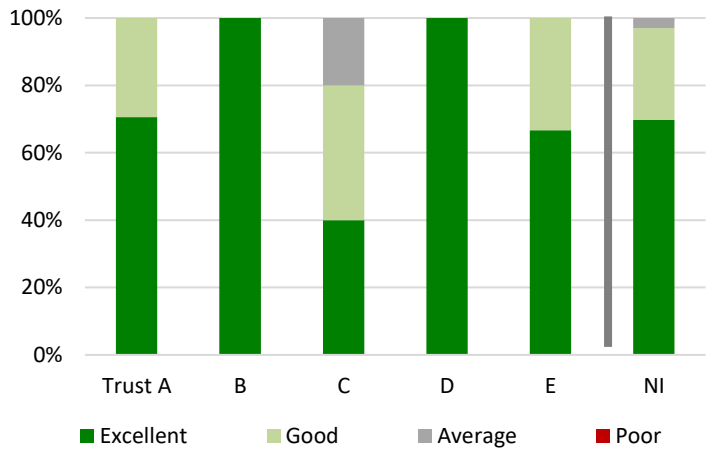
Adverse Incidents

The majority of trainees regionally have not been involved in an adverse incident (91%). Of those that had (3 trainees), all reported having been supported by their Trust (Trust A). One-third of trainees indicated that they were not aware of the process for investigation of an adverse incident and that figure was higher in Trust C (60%) and Trust E (68%).

Quality of Care

Trainees were asked to rate the quality of care provided to patients in their post. Regionally, 98% of trainees reported the quality of care as "excellent" or "good". One trainee in Trust C responded "average". No trainee felt that the quality of care was "poor" (Figure 17).

Figure 17: Quality of Patient Care by Trust



Trainee comments:

"IR service excellent. Diagnostic service and culture improving" – ST4 Trust A

"Exceptional patient care." – ST4 Trust D

"Timely access to CT and MRI particularly red flag cases. Image guided biopsies and drainages performed on a timely bases." – ST4 Trust B

"I've seen much better but I've also seen worse." – ST3 Trust C

"Personalised care with good clinician interaction." – ST2 Trust E

8: Training Environment

The vast majority (94%) of trainees stated that they felt valued as part of the team in their post. Two trainees indicated that they did not, both from Trust C. The vast majority (94%) stated that they had not experienced behaviour from anyone (doctor, nurse, other healthcare worker) that undermined their professional confidence and/or self-esteem. Again, two trainees, both from Trust C, responded that they had. No trainee had seen anyone else being the target of undermining, bullying or harassment in their post. Two trainees reported experiencing some risk to personal safety, related to commuting.

Trainee comments:

"I do not feel like I am here to be trained, I'm here to help mop up dopplers the radiographers wouldn't approve (regularly no wells or d-dimer), help consultants with their CT list and answer the phone for queries I can't approve. Again, there are some consultants who are trying and do teach and give feedback and thank you for your help with lists." – ST3 Trust C

"Very supportive and keen to get me reporting, scanning, and involved." – ST2 Trust A

"I've not had my self-esteem knocked down but it's also not been boosted." – ST3 Trust C

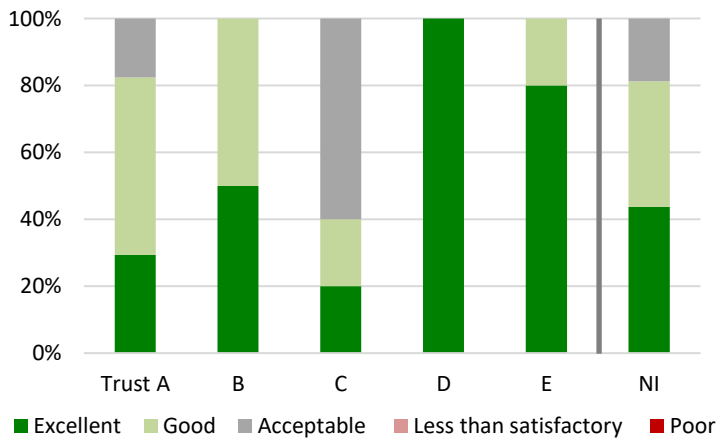
"There's a culture that having the home stations is a privilege and that you need to ask permission to go home (or to a closer hospital to home) for on calls. On calls end at 10pm, you'd get home and rested by about 11 and then are due in the next day. The consultants all do on calls from home. I'm not sure why we get a home station if we're have to seek permission to use it? After being in an on-call room by yourself for 13 hours where most of the conversation has been referrals demanding scans it's very tiring driving home. Thankfully I'm here in the summer so it's still bright. 10pm is late to end on calls and expect us to drive home. I think 8pm and work on site would be better. It would also let us get to know the radiographers and vice versa. Hard to get to know people solely over the chat system." – ST3 Trust C

"It is up to a 2-hour commute from my base hospital each way as well as mid-week teaching session that require commuting. This after 6 months does have an effect." – ST2 Trust E

9: Overall Opinion

As illustrated in Figure 18, all trainees surveyed gave a global score of at least acceptable for their training post. Regionally, the majority (81%) rated their post as "good" or "excellent". Of note, all trainees in Trusts B, D and E gave a score of "good" or "excellent". In Trust C, 60% gave a score of "acceptable". No trainees felt their post was "less than satisfactory" or "poor" as a training post.

Figure 18: Global Score by Trust



Section 2: Good Practice and Actions Identified

Good practice is noted both regionally and at a local level throughout training in Radiology as outlined below.

1. Induction

Regionally, induction was felt to be appropriate and trainees were aware of their roles and responsibilities. Trainees are provided with an outline of their training requirements at the beginning of the year by the School. In addition to this, it is noted in **Trust B** there is a departmental induction checklist to ensure all relevant information for unit induction is provided.

Good practice is noted in **Trust E**, where Trust induction takes place over two days. During this two-day period, trainees are not scheduled for any clinical sessions. The priority for day 1 is general Trust induction, administrative issues (ID badges/IT passwords/accommodation) and a general walk around/tour of the department. On day 2, trainees are introduced to the available radiology modalities, familiarised with equipment and local rules. In addition, it is ensured trainees are familiarised with IT systems, RIS-PACS and the system for reporting, as well as what to do with referrals and who to seek support from when needed. For ST1 trainees, a period of shadowing before entering clinical sessions is also provided.

2. Clinical Workload

While the majority of radiology trainees report the intensity of out of hours work as either "very intense" or "excessive" and it is noted that the workload is increasing significantly due to a growing regional demand for cross-sectional imaging out of hours; regionally trainees report continued high levels of support from both more senior trainees and consultants during these times.
In response to the increased workload reported during a long day, **Trust A** has created an extra shift (3pm-12am) to reduce workload intensity for individual trainees during this time. An agreed **action** from the Trust was to define more clearly out of hours "trigger points", to clarify for trainees when to contact the consultant on call if workload is becoming unmanageable.
In addition, the School is actively looking at what can be put in place to address the increased regional demand for unscheduled care. Options to address this issue include increasing planned slots for urgent CTs and developing a regional CT out of hours service.

3. Educational and Clinical Supervision and Feedback

There is a regional approach to Educational supervision which is well received by trainees. Clinical supervision is also of a high standard throughout the specialty, both during normal working hours and out of hours.

It is noted the frequent feedback is given to trainees, with 86% of trainees receiving feedback (both formal and informal) at least a few times a month and 50% receiving feedback on a weekly basis.

4. Formal Teaching and Educational Opportunities

Regional Teaching: Trainees sitting their FRCR have good access to regional teaching sessions. **Good practice** is noted with trainees receiving free access to online anatomy teaching provided by the **Peninsular Academy**. In addition, all ST2 trainees have access to a **Practice Based Learning** course provided by the **Faculty of Radiologists and Radiation Oncologists in Dublin**; delivering teaching on

the principles of Quality Improvement and Audit. The School, with funding support from the Department of Health is also working to develop a local "Academy" to increase and facilitate training.

Local Teaching: This varies by Trust and site; however, it is noted that there is generally good access to local teaching, with 65% of trainees reporting receiving at least 2 hours of protected teaching time per week.

Good practice is noted in **Trust B**, where all trainees report at least 3 hours per week of protected local teaching time and where there is weekly protected consultant-led teaching (Friday am). At these sessions, trainees are encouraged to present and discuss interesting/complex cases that have occurred during the week and all consultants are invited to attend, to enhance learning for trainees. **Good practice** is also noted in **Trust D,** who provide formal consultant teaching on a weekly basis, with consultants taking turns to deliver the sessions. Organisation of the time and topic for each session is trainee led, to maximise attendance and meet the trainees' educational needs.

Quality Improvement projects were set up by 88% of trainees. **Good practice** is noted in **Trust E**, who have a formalised QI programme within the Trust, with a central bank of QI projects. Both **Trust B** and **Trust D** expressed plans for upcoming QI initiatives whereby a central bank of QI projects for each department would be generated and available to all trainees, aligning to the goals of each department to create ongoing workstreams of QI/audit projects.

5. Training Opportunities: Capabilities in Practice (CiPs)

Regionally access to training opportunities to meet specialty specific capabilities in practice is sufficient to meet the identified training needs. In one CiP where a lack of training was reported (Management of Anaphylaxis and Resuscitation), the School has agreed to develop a local course to address the identified lack of training opportunities in this area.

6. Training Opportunities: Practical Procedures

Good practice is noted in **Trust B** in regard to Plain Film Reporting, whereby all trainees are allocated a number of dedicated plain film reporting sessions each week (number depends on stage of training). The number of cases trainees have completed each month is regularly monitored by the clinical supervisor and flexible sessions are available for the trainees to submit the reports along with a request for feedback as part of an IPX assessment.

Good practice was noted in **Trust E** in regard to **Ultrasound training,** with special provision having been made to facilitate delivery of 1:1 training to all trainees. Dedicated ultrasound outpatient sessions, led by a senior sonographer, are held weekly, at which longer slots are allocated to each patient to allow adequate training time. The ultrasound is demonstrated by the sonographer and the trainee then has time to perform the scan themselves. One trainee attends in the morning and one in the afternoon and trainees rotate after 6 weeks. These sessions give all trainees the opportunity to develop basic ultrasound skills.

References

1) UKFPO F2 Career Destinations Report 2019
2) NIMDTA Specialty Recruitment Competition Ratios (2022)
3) UK Specialty Recruitment Competition Ratios (2022)
4) Clinical Radiology: Specialty Training Curriculum (2021)
5) Interventional Radiology: Specialty Training Curriculum (2021)

Appendices

Appendix 1: Targets and Colour Coding for PQ Survey Education Areas/Tables

Appendix 2: PQ Survey Results

Appendix 3: PQ Survey Results – Trust A

Appendix 4: Access to Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs)

Appendix 5: Access to Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs) – Trust A

Appendix 6: Quality of Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs)

Appendix 7: Quality of Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs) – Trust A

Appendix 8: Access to Training in Practical Procedures

Appendix 9: Access to Training in Practical Procedures – Trust A

Appendix 10: Quality of Training in Practical Procedures

Appendix 11: Quality of Training in Practical Procedures – Trust A

Appendix 12: Survey Response Rate by Trust/Site

Appendix 13: Site Identification Key

Appendix 1: Targets and Colour Coding for PQ Survey Education Areas/Tables

Education Areas	Target (% of trainees)
TRUST notification of on-call rota > 4 weeks (Q.5)	100%
Induction appropriate (Q.7)	100%
Workload (Daytime) Just Right (Q.15)	≥50%
Workload (Long Day) Very Intense/Excessive	≤50%
Workload (Night) – Very Intense/Excessive	≤50%
Workload (Weekends) – Very Intense/excessive	≤50%
Good support from senior trainees (when workload excessive) (Q.16)	≥75%
Good support from consultant (when workload excessive) (Q.17)	≥75%
Educational Supervision - Satisfactory (Q.19)	≥90%
Clinical Supervision (Day time) - Acceptable (Q.20).	≥90%
Clinical Supervision (OOH) – at least Acceptable (Q.21)	≥90%
No difficulty getting WPBAs needed for progression (Q.22)	≥90%
Feedback:(Q.23) At least once a month	100%
Feedback: Less than once a month	0%
Attendance at Regional FRCR Part 1Teaching (Q.25) - 50% or more sessions	≥50%
Attendance at Trust FRCR Part 2 Exam Teaching (Q.28) - 50% or more sessions	≥50%
Protected local teaching: At least 2 hrs/week (Q.29)	≥50%
Protected local teaching: At least 1 hr/week	100%
Protected local teaching: Less than 1 hr/week	0%
Local Teaching: Consultant attendance - Always/Usually (Q.34)	100%
Informal consultant 1:1 teaching during sessions – Always/usually (Q.32)	≥50%
Able to set up a QIP/Active culture of QI (Q.37) - (yes)	100%
Consultant supervision available at all imaging lists (Q.40)	100%
Able to access sufficient imaging lists to meet training needs	100%
Experienced Undermining/Bullying	0%
OVERALL Satisfaction: Placement rated as At least acceptable	100%
OVERALL Satisfaction: Placement rated as Less than satisfactory/Poor	0%

NI Regional & Trust Data		Trust Data
Target achieved	Below Target	Figures 10% or more outside the NI figures*

* All results better or worse than the regional figure by 10% or more are marked with an asterisk

Training Opportunities (Access & Quality)

Targets for Training Opportunities (Excellent/Good) - % of trainees			
≥50%	≥75%	<50%	≤30%

Appendix 2: PQ Review Radiology – Survey Results

Education Areas	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
TRUST notification of on-call rota > 4 weeks (Q.5)	75%*	100%*	40%*	75%*	17%*	59%
Induction appropriate (Q.7)	100%*	100%*	20%*	100%*	100%*	89%
Impact of rota gaps on day to day training (Q.14) – No impact	47%	100%*	100%*	25%*	0%*	52%
Impact of rota gaps on day to day training – Increased Workload/Missed TOs	20/47%	0%*	0%*	25/50%*	33%* (0/33)	16/44%
Impact of rota gaps on day to day training – Difficulty getting study /annual leave	0%	0%	0%	0%	0%	0%
Workload (Day-time) Just Right (Q.15)	74%	100%*	60%*	100%*	100%*	81%
Workload (Long Day) Very Intense/Excessive	84%* (63/21)	0%*	100%* (100/0)	84%* (63/21)	0%*	68% (55/13)
Workload (Night) – Very Intense/Excessive	89%* (68/21)	N/A	N/A	89%* (68/21)	0%*	71% (54/17)
Workload (Weekends) – Very Intense/excessive	89%* (58/32)	100%* (100/0)	100%* (100/0)	89%* (58/32)	0%*	77% (58/19)
Good support from senior trainees (when workload excessive) (Q.16)	82%	N/A	100%*	100%*	100%*	87%
Good support from Consultant – if applicable (Q.17)	80%	100%*	100%*	67%*	100%*	86%
Educational Supervision - Satisfactory (Q.19) (Excellent/Above average)	100% (47/42)	100% (100/0)	100% (40/0)	100% (50/0)	100% (100/0)	100% (58/22)
Clinical Supervision (Day time) – Acceptable (Q.20) (Excellent/Good)	100% (21/63)	100% (0/100)	80%* (0/20)	100% (75/25)	100% (67/17)	97% (31/47)
Clinical Supervision (OOH) - Acceptable (Q.21) (Excellent/Good)	95% (11/26)	100% (0/100)	100% (20/20)	95% (11/26)	100% (20/60)	97% (13/35)
No difficulty getting WPBAs needed for progression (Q.22)	84%	100%*	100%*	75%	67%*	83%
Feedback:(Q.23): More than once a month (Weekly/A few times a month)	79% (42/37)	100%* (50/50)	100%* (80/20)	100%* (50/50)	83% (50/33)	86% (50/36)
Feedback: Once a month or less	21%	0%*	0%*	0%*	17%	14%
Attendance at Regional FRCR Part 1 Teaching (Q.25) - 50% or more sessions	100%	N/A	N/A	100%	100%	100%
Attendance at Trust FRCR Part 2 Exam Teaching (Q.28) - 50% or more sessions	100%	100%	100%	100%	100%	100%
Protected local teaching (Q.29): At least 2 hrs/week (≥3 hrs/week)	59% (29%)	100%* (100%)	40%* (40%)	50%* (50%)	100%* (33%)	65% (38%)
Protected local teaching: at least 1 hr/week (1 hour/week)	65% (6%)	100%* (0%)	60% (20%)	100%* (50%)	100%* (0%)	76% (12%)
Protected local teaching: Less than 1 hr/week	35%*	0%*	40%*	0%*	0%*	24%

Education Areas	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
Local Teaching: Consultant attendance (Q.34) - Always/Usually	59%* (35/24)	50%* (50/0)	60%* (40/20)	100%* (50/50)	100%* (33/67)	71% (38/32)
Informal 1:1 consultant teaching during sessions (Q.32) – Every day/several times a week	59% (41/18)	50% (0/50)	20%* (20/0)	75%* (50/25)	50% (17/33)	53% (32/21)
Informal 1:1 consultant teaching during sessions (Q.32) – Once a week/Rarely	41% (24/18)	50% (50/0)	80%* (60/20)	25%* (25/0)	50% (50/0)	47% (35/12)
Encouraged to complete posters/presentations/research (Q.36) – active culture/ encouraged to participate	41%*	0%*	0%*	25%	17%	26%
Able to set up QI & Active culture of QI (Q.37) - (yes) (Able to set up QIP but no encouragement to be involved in QI)	76%* (18%)	100%* (0%)	20%* (60%)	25%* (25%)	67% (33%)	62% (26%)
Difficulty accessing sufficient imaging lists to meet training needs (Q.39)	41%	0%*	60%*	0%*	17%*	33%
Consultant supervision available at all imaging lists (Q.40)	76%	100%*	80%	100%*	83%	82%
Culture in Department to raise concerns wrt patient safety or Q of care – Yes (Q.47)	100%	100%	100%	100%	100%	100%
Quality of care provided to patients in the post – Excellent/Good (Q.50)	71/29%	100/0%	40/40%	100/0%	67/33%	70/27%
Shown how to use Trust incident reporting system (DATIX) – Yes (Q.48)	41%	50%*	0%*	33%	67%*	39%
Aware of the processes for investigation of an adverse incident – Yes (Q.49)	82%*	100%*	40%*	67%	33%*	67%
Feel valued and part of the team in this post (Q.51)	100%	100%	60%*	100%	100%	94%
Experienced Undermining/Bullying (Q.52)	0%	0%	40%*	0%	0%	6% (2 trainees)
Witnessed Undermining/Bullying (Q.53)	0%	0%	0%	0%	0%	0%
OVERALL Satisfaction (Q.55): Placement rated as at least Acceptable (Excellent/Good)	100% (29/53)	100% (50/50)	60%* (20/20)	100%* (100/0)	100% (80/20)	100% (44/38)
OVERALL Satisfaction: Placement rated as Less than satisfactory/Poor	0%	0%	0%	0%*	0%	0%

Appendix 3: PQ Survey Results – Trust A

Education Areas	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
TRUST notification of on-call rota > 4 weeks (Q.5)	75%*	75%*	60%	100%*	100%	59%
Induction appropriate (Q.7)	100%*	100%*	100%*	100%*	100%	89%
Impact of rota gaps on day to day training (Q.14) – No impact	47%	43%	25%*	67%*	100%	52%
Impact of rota gaps on day to day training – Increased Workload/Missed TOs	20/47%	29/29%	25/75%	0/33%	0/100%	16/44%
Impact of rota gaps on day to day training – Difficulty getting study /annual leave	0%	0%	0%	0%	0%	0%
Workload (Day-time) Just Right (Q.15)	74%	50%*	86%	100%*	100%	81%
Workload (Long Day) Very Intense/Excessive	84%* (63/21)	86%* (57/29)	80%* (60/20)	67% (67/0)	100% (100/0)	68% (55/13)
Workload (Night) – Very Intense/Excessive	89%* (68/21)	86%* (57/29)	100%* (57/29)	67% (67/0)	100% (100/0)	71% (54/17)
Workload (Weekends) – Very Intense/excessive	89%* (58/32)	100%* (43/57)	100%* (80/20)	33%* (33/0)	100% (100/0)	77% (58/19)
Good support from senior trainees (when workload excessive) (Q.16)	82%	71%*	100%*	100%*	100%	87%
Good support from Consultant – if applicable (Q.17)	80%	88%	75%*	50%*	100%	86%
Educational Supervision - Satisfactory (Q.19) (Excellent/Above average)	100% (47/42)	100% (50/38)	100% (57/43)	100% (67/33)	100% (0/100)	100% (58/22)
Clinical Supervision (Day time) – Acceptable (Q.20) (Excellent/Good)	100% (21/63)	100% (25/63)	100% (0/71)	100% (67/33)	100% (0/100)	97% (31/47)
Clinical Supervision (OOH) - Acceptable (Q.21) (Excellent/Good)	95% (11/26)	100% (14/29)	80%* (0/20)	100% (0/33)	100% (0/100)	97% (13/35)
No difficulty getting WPBAs needed for progression (Q.22)	84%	88%	86%	100%*	0%	83%
Feedback:(Q.23): More than once a month (Weekly/A few times a month)	79% (42/37)	75%* (38/38)	71%* (29/43)	100%* (100/0)	100% (0/100)	86% (50/36)
Feedback: Once a month or less	21%	25%*	29%*	0%*	0%	14%
Attendance at Regional FRCR Part 1 Teaching (Q.25) - 50% or more sessions	100%	100%	100%	N/A	N/A	100%
Attendance at Trust FRCR Part 2 Exam Teaching (Q.28) - 50% or more sessions	100%	100%	100%	100%	100%	100%
Protected local teaching (Q.29): At least 2 hrs/week (≥3 hrs/week)	59% (29%)	71% (29%)	50%* (17%)	67% (33%)	0%	65% (38%)
Protected local teaching: at least 1 hr/week (1 hour/week)	65% (6%)	86% (14%)	50%* (0%)	67% (0%)	0%	76% (12%)
Protected local teaching: Less than 1 hr/week	35%*	14%*	50%*	33%*	100%	24%

Education Areas	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
Local Teaching: Consultant attendance (Q.34) - Always/Usually	59%* (35/24)	71% (43/29)	17%* (0/17)	100%* (67/33)	100% (100/0)	71% (38/32)
Informal 1:1 consultant teaching during sessions (Q.32) – Every day/several times a week	59% (41/18)	29%* (29/0)	67%* (33/33)	100%* (67/33)	100% (100/0)	53% (32/21)
Informal 1:1 consultant teaching during sessions (Q.32) – Once a week/Rarely	41% (24/18)	71%* (43/29)	33%* (17/17)	0%	0%	47% (35/12)
Encouraged to complete posters/presentations/research (Q.36) – active culture/ encouraged to participate	41%*	43%*	33%	67%*	0%	26%
Able to set up QI & Active culture of QI (Q.37) - (yes) (Able to set up QIP but no encouragement to be involved in QI)	76%* (18%)	71% (14%)	83%* (17%)	100%*	0% (100%)	62% (26%)
Difficulty accessing sufficient imaging lists to meet training needs (Q.39)	41%	29%	50%*	33%	100%	33%
Consultant supervision available at all imaging lists (Q.40)	76%	86%	50%*	100%*	100%	82%
Culture in Department to raise concerns wrt patient safety or Q of care – Yes (Q.47)	100%	100%	100%	100%	No Data	100%
Quality of care provided to patients in the post – Excellent/Good (Q.50)	71/29%	86/14%	33/67%	100/0%	100/0%	70/27%
Shown how to use Trust incident reporting system (DATIX) – Yes (Q.48)	41%	43%	50%*	0%*	100%	39%
Aware of the processes for investigation of an adverse incident – Yes (Q.49)	82%*	86%*	83%*	67%	100%	67%
Feel valued and part of the team in this post (Q.51)	100%	100%	100%	100%	100%	94%
Experienced Undermining/Bullying (Q.52)	0%	0%	0%	0%	0%	6% (2 trainees)
Witnessed Undermining/Bullying (Q.53)	0%	0%	0%	0%	0%	0%
OVERALL Satisfaction (Q.55): Placement rated as at least Acceptable (Excellent/Good)	100% (29/53)	100% (14/57)	100% (17/67)	100% (67/33)	100% (100/0)	100% (44/38)
OVERALL Satisfaction: Placement rated as Less than satisfactory/Poor	0%	0%	0%	0%	0%	0%

Appendix 4: Access to Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs)

Training Opportunities (Sufficient TOs to meet training needs – where felt applicable)	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
Specialty-specific CIPs						
Select and tailor imaging to patient context and clinical question(s)	94%	100%	75%*	100%	100%	94%
Provide timely, accurate and clinically useful reports	94%	100%	100%	100%	100%	97%
Manage imaging examination lists/procedures	75%	100%*	75%	100%*	100%*	84%
Evaluate image quality and utilise knowledge of imaging sciences to optimise image quality	94%*	50%*	60%*	100%*	83%	84%
Safely manage image guided procedures to support emergency care	93%	100%*	50%*	100%*	83%	86%
Effectively contribute a clinical/imaging opinion to a multidisciplinary team working (MDT)	94%	100%*	50%*	100%*	100%*	90%
Involvement in QI and Audit	80%	100%*	40%*	100%*	100%*	80%
Management of anaphylaxis and resuscitation	67%	100%*	33%*	100%*	100%*	73%
Acting as a clinical teacher and clinical supervisor	93%	100%*	75%*	100%*	67%*	88%

Appendix 5: Access to Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs) – Trust A

Training Opportunities (Sufficient TOs to meet training needs – where felt applicable)	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
Specialty-specific CIPs						
Select and tailor imaging to patient context and clinical question(s)	94%	100%	83%*	100%	100%	94%
Provide timely, accurate and clinically useful reports	94%	100%	83%*	100%	100%	97%
Manage imaging examination lists/procedures	75%	83%	50%*	100%*	100%	84%
Evaluate image quality and utilise knowledge of imaging sciences to optimise image quality	94%*	100%*	80%	100%*	100%	84%
Safely manage image guided procedures to support emergency care	93%	100%*	100%*	67%*	N/A	86%
Effectively contribute a clinical/imaging opinion to a multidisciplinary team working (MDT)	94%	100%*	100%*	100%*	0%	90%
Involvement in QI and Audit	80%	86%	60%*	100%*	100%	80%
Management of anaphylaxis and resuscitation	67%	100%*	25%*	0%*	100%	73%
Acting as a clinical teacher and clinical supervisor	93%	100%*	80%	100%*	100%	88%

Appendix 6: Quality of Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs)

Quality of Training Opportunities (Excellent/Good at all or most attendances – where felt applicable)	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
Specialty-specific CIPs						
Select and tailor imaging to patient context and clinical question(s)	76%	100%*	50%*	100%*	83%	78%
Provide timely, accurate and clinically useful reports	82%	100%*	40%*	100%*	83%	79%
Manage imaging examination lists/procedures	76%	50%*	50%*	100%*	100%*	77%
Evaluate image quality and utilise knowledge of imaging sciences to optimise image quality	88%	100%*	25%*	100%*	83%	80%
Safely manage image guided procedures to support emergency care	87%	100%*	40%*	100%*	100%*	83%
Effectively contribute a clinical/imaging opinion to a multidisciplinary team working (MDT)	75%	100%*	50%*	100%*	83%	77%
Involvement in QI and Audit	75%	100%*	0%*	100%*	80%	72%
Management of anaphylaxis and resuscitation	50%	100%*	0%*	100%*	40%*	50%
Acting as a clinical teacher and clinical supervisor	67%	100%*	0%*	100%*	67%	65%

Appendix 7: Quality of Training Opportunities to Meet Specialty-Specific Capabilities in Practice (CiPs) – Trust A

Quality of Training Opportunities (Excellent/Good at all or most attendances – where felt applicable)	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
Specialty-specific CIPs						
Select and tailor imaging to patient context and clinical question(s)	76%	86%	67%*	67%*	100%	78%
Provide timely, accurate and clinically useful reports	82%	86%	67%*	100%*	100%	79%
Manage imaging examination lists/procedures	76%	86%	50%*	100%*	100%	77%
Evaluate image quality and utilise knowledge of imaging sciences to optimise image quality	88%	86%	80%	100%*	100%	80%
Safely manage image guided procedures to support emergency care	87%	83%	83%	100%*	N/A	83%
Effectively contribute a clinical/imaging opinion to a multidisciplinary team working (MDT)	75%	86%	40%*	100%*	100%	77%
Involvement in QI and Audit	75%	60%*	75%	100%*	100%	72%
Management of anaphylaxis and resuscitation	50%	80%*	20%*	0%*	100%	50%
Acting as a clinical teacher and clinical supervisor	67%	75%*	40%*	100%*	100%	65%

Appendix 8: Access to Training in Practical Procedures

Training Opportunities available for Practical Procedures (Sufficient TOs to meet training needs – where felt applicable)	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
Plain film imaging/reporting	59%*	100%*	40%*	100%*	100%*	70%
CT imaging	88%	100%	80%*	100%	100%	91%
MRI imaging	41%*	100%*	60%	100%*	83%*	61%
Ultrasound	88%	100%*	40%*	100%*	83%	82%
Radionuclide imaging	17%*	N/A	0%* (60% N/A)	0%*	83%*	40%
Image guided biopsies	76%	100%*	60%*	67%	83%	76%
Image guided drainage	73%	100%*	20%*	67%	83%*	67%
Image guided vascular access and basic catheter/wire manipulation	88%*	N/A	0%* (80% N/A)	100%*	33%*	71%
Contrast studies of lines and tubes	92%	100%*	67%*	100%*	83%	88%
Contrast studies of the adult GI and GU tract	100%	100%	75%*	100%	83%*	93%
Contrast studies of the paediatric GI and GU tract	88%*	N/A	33%*	100%*	33%*	65%

Appendix 9: Access to Training in Practical Procedures – Trust A

Training Opportunities available for Practical Procedures (Sufficient TOs to meet training needs – where felt applicable)	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
Plain film imaging/reporting	59%*	71%	33%*	100%*	0%	70%
CT imaging	88%	100%	67%*	100%	100%	91%
MRI imaging	41%*	14%*	50%*	100%*	0%	61%
Ultrasound	88%	86%	100%*	67%*	100%	82%
Radionuclide imaging	17%*	0%*	25%*	N/A	N/A	40%
Image guided biopsies	76%	71%	100%*	67%	0%	76%
Image guided drainage	73%	71%	83%*	50%*	N/A	67%
Image guided vascular access and basic catheter/wire manipulation	88%*	50%*	100%*	N/A	N/A	71%
Contrast studies of lines and tubes	92%	83%	100%*	N/A	N/A	88%
Contrast studies of the adult GI and GU tract	100%	100%	100%	N/A	N/A	93%
Contrast studies of the paediatric GI and GU tract	88%*	100%*	67%	N/A	N/A	65%

Appendix 10: Quality of Training in Practical Procedures

Quality of Training Opportunities for Practical Procedures (Excellent/Good at all or most attendances)	Trust A	Trust B	Trust C	Trust D	Trust E	N.I 2022 Regional
Plain film imaging/reporting	38%*	100%*	50%	100%*	80%*	57%
CT imaging	69%*	100%*	100%*	100%*	100%*	83%
MRI imaging	75%*	100%*	100%*	100%*	100%*	87%
Ultrasound	81%	100%*	50%*	100%*	80%	80%
Radionuclide imaging	0%*	100%*	N/A	0%*	100%*	67%
Image guided biopsies	88%	100%*	25%*	67%*	100%*	80%
Image guided drainage	85%*	50%*	0%*	67%	100%*	70%
Image guided vascular access and basic catheter/wire manipulation	75%*	0%*	0%* (80% N/A)	67%	50%*	60%
Contrast studies of lines and tubes	55%*	100%*	33%*	67%	100%*	67%
Contrast studies of the adult GI and GU tract	50%*	100%*	25%*	100%*	100%*	65%
Contrast studies of the paediatric GI and GU tract	63%*	100%*	50%*	100%*	100%*	79%

Appendix 11: Quality of Training in Practical Procedures – Trust A

Quality of Training Opportunities for Practical Procedures (Excellent/Good at all or most attendances)	Trust A	Site 1	Site 2	Site 3 (3 Trainees)	Site 4 (1 Trainee)	N.I 2022 Regional
Plain film imaging/reporting	38%*	17%*	33%*	67%*	100%	57%
CT imaging	69%*	50%*	67%*	100%*	100%	83%
MRI imaging	75%*	50%*	83%	100%*	100%	87%
Ultrasound	81%	83%	67%*	100%*	100%	80%
Radionuclide imaging	0%*	N/A	0%*	N/A	N/A	67%
Image guided biopsies	88%	83%	83%	100%*		80%
Image guided drainage	85%*	83%*	83%*	100%*	N/A	70%
Image guided vascular access and basic catheter/wire manipulation	75%*	50%*	83%*	N/A	N/A	60%
Contrast studies of lines and tubes	55%*	60%	50%*	N/A	N/A	67%
Contrast studies of the adult GI and GU tract	50%*	50%*	50%*	N/A	N/A	65%
Contrast studies of the paediatric GI and GU tract	63%*	60%*	67%*	N/A	N/A	79%

Appendix 12: Survey Response Rates

Of the 52 posts, 49 trainees were in post for the survey period. Two trainees were on maternity leave and no trainees were out of programme. There were 46 responses to the survey giving a regional response rate of 88%. 3 trainees who completed the survey skipped Questions 1 and 2 which asked about grade and hospital (accounting for the total number responded equalling 46 in Table 1). Table 1 details the number of trainees in post in each unit at the time of the survey and the response rate for each unit.

Response rate by hospital

Hospital Site	Number of posts	Number Responded	Response Rate (%)
RVH	19	11	58%
BCH*	7	9	100%
MIH	1	1	100%
MPH	3	3	100%
AAH	4	2	50%
CAH	6	5	83%
UHD	8	5	63%
ALT*	4	6	100%
Other		1	
Skipped		3	
Total	**52**	**46**	**88%**

*Presumed trainees who covered multiple sites completed more than one survey

Appendix 13: Site Identification Key

Key	Trust	Sites
Trust A	Belfast HSCT	Royal Victoria Hospital (Site 1)
		Belfast City Hospital (Site 2)
		Musgrave Park Hospital (Site 3)
		Mater Infirmary Hospital (Site 4)
Trust B	Northern HSCT	Antrim Area Hospital
Trust C	Southern HSCT	Craigavon Area Hospital
Trust D	South Eastern HSCT	Ulster Hospital Dundonald
Trust E	Western HSCT	Altnagelvin Area Hospital