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Exploring the lived experiences of diagnostic radiographers after transitioning to non-emergency imaging settings

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ABSTRACT

Introduction: The demand for diagnostic imaging in emergency clinical settings has increased in recent years, placing pressure on the available workforce. However, challenges including staff shortages and inflexible shift patterns may prompt radiographers to leave emergency settings. This study explores the lived experiences of radiographers who have transitioned to non-emergency settings and factors that might influence their decision to return.

Methods: A descriptive phenomenological approach was used. Semi-structured interviews were conducted with 12 diagnostic radiographers working in the UK, who had transitioned to non-emergency settings within the last one to five years.

Results: Participants provided insight into (1) the past: reasons for transitioning, (2) the present: current thoughts on wellbeing and professional development, and (3) the future: possibility of returning to the emergency setting. Occupational pressures including excessive workloads, physical exhaustion, and time constraints leading to moral distress, were commonly cited reasons for transitioning to non-emergency setting. Since transitioning, participants reported improvement in their physical and mental well-being, renewed job satisfaction, and enhanced work-life balance. Career advancement opportunities, a better work environment, competitive salaries, and improved mental health support, could encourage a return to the emergency setting.

Conclusion: This study highlights the valuable learning experiences that emergency settings offer diagnostic radiographers, greatly enhancing their skills and overall competence. However, challenging work conditions can lead to job dissatisfaction and burn out. Instead of leaving the profession altogether, some radiographers found renewed satisfaction by transitioning to non-emergency settings. The majority of participants would consider returning to emergency imaging under the right conditions.

Implications for practice: Flexibility regarding work arrangements, career advancement opportunities, competitive salary offers, and improved mental health support through interventions such as debriefing, could help retain radiographers in emergency settings.

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Introduction

Emergency departments are facing a global staffing crisis, with high numbers of healthcare workers currently noted to be leaving systems such as the United Kingdom's National Health Service (NHS).[1] Among radiographers, factors contributing to the rising attrition rates include staff shortages, poor work-life balance, inflexible shift patterns, stress, and burnout.[2–4] Radiographers performing trauma and emergency imaging are particularly at risk, as they contend with out of hours shifts, unpredictable workloads, and high patient volumes.[5]

In England, the number of healthcare workers leaving the NHS tripled between 2011 and 2021,[6] while accident and emergency (A&E) attendances rose by 13 % between 2012 and 2022.[7] This combination of increased patient demand and staff departures has placed immense strain on diagnostic radiographers remaining in emergency settings. Furthermore, the recent COVID-19 pandemic has exacerbated the challenge of retaining diagnostic radiographers in the workforce across many countries.[8] During the pandemic, radiographers in emergency settings reported higher levels of burnout compared to their non-emergency counterparts.[9]

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The fast pace and unpredictable nature of emergency imaging can be particularly overwhelming for newly qualified radiographers, heightening levels of stress and anxiety.[10] These challenging conditions may prompt some to transition to work environments where trauma and emergency imaging is not performed. This study aimed to (1) explore the lived experiences of diagnostic radiographers who had worked for at least one year in a hospital with imaging examination referrals from emergency departments, but now transitioned to diagnostic imaging centres without an emergency department unit and (2) identify factors that might influence their decision to return. Gaining these insights could provide essential information for developing strategies to improve staff retention in emergency settings, supporting both radiographer well-being and the increasing demand for trauma imaging services.

Method

Ethical approval for the study was obtained from the researchers' academic institution (Ref: ETH2324-1114, date of approval: April 1st 2024). A qualitative, descriptive phenomenological approach was employed, aiming to describe participants' experiences as authentically as possible, without applying external theories or interpretations.[11] Semi-structured interviews were conducted to explore the lived experiences of radiographers after transitioning to non-emergency imaging settings. As required in descriptive phenomenology, all researchers involved acknowledged and set aside their personal assumptions from prior experience through bracketing.[12,13] Reflexivity throughout the research process was employed to reduce external influence and ensure participants' experiences were accurately documented. For example, the initial literature review was limited to establishing foundational knowledge[13] and leading questions were avoided during the interviews. An interview schedule was employed, with questions designed to build on insights from the seminal works of Nightingale[2,3] exploring the retention of radiographers in the NHS. The interviewer adapted or rephrased the questions as needed, particularly if they had already been addressed in a previous response. Additional prompts such as "can you tell me more about … " were used to explore certain responses in greater depth. The core questions asked were:

(1) Can you explain why you transitioned to a non-emergency department?
(2) Can you explain how this has impacted you?
(3) Has the transition impacted on your mental health and how?
(4) Has the transition impacted on your physical health and how?
(5) Has the decision impacted on your work-life balance and how?
(6) How satisfied are you with your knowledge and career progression since transitioning?
(7) What would make you return to working in the emergency setting?

Snowball sampling was implemented to recruit 12 participants. Social media was used to initiate the snowball through advertisements posted on social media (e.g., radiography-related Facebook groups). The inclusion criteria required participants to be currently practicing diagnostic radiographers, who had worked for at least one year in a hospital with imaging examination referrals from emergency departments, but transitioned within the past five years, to a diagnostic imaging centre without an emergency department unit.

An information sheet was provided to all prospective participants to read, and opportunities to ask the research team questions about the study were offered. After participants indicated their willingness to be interviewed, they were asked to provide written informed consent, with the signed form granting permission for the interviews to be recorded and for anonymised quotations to be used in future publications.

Sample size was guided by principles of information power in qualitative research, which considers multiple factors including the interviewer's experience and complexity of the phenomenon under investigation.[14] All interviews were conducted by KT, a diagnostic radiographer with nine years of clinical experience. Since some participants were familiar with the interviewer, they may have felt more comfortable to share their experiences, compared to speaking with an unfamiliar interviewer, producing data-rich transcripts. The focused study aims and clearly defined target population also support the use of a smaller participant group.

Participants were given the option to have the interview conducted via Microsoft Teams (n = 7) or a telephone call (n = 5). All interviews were recorded using a password protected electronic recording device, after verbal consent from participants was reconfirmed. Interviews were performed during working hours (8am to 5pm), with some participants choosing to hold their interviews in their current clinical department. These interviews were conducted between April 2024 and May 2024, averaging approximately 20 min each.

Interview recordings were manually transcribed verbatim by KT. All transcripts were analysed by (MN) following Colaizzi's seven step approach to descriptive phenomenological analysis.[15] This process ensured a rigorous analysis, with each step remaining closely aligned with the data.[16,17] Table 1 presents a summary of the seven steps involved with the analysis of the transcripts for this study. Final themes were discussed and confirmed by all members of the research team MN, KT, AN, ES.

A series of procedures were performed to improve trustworthiness and address the issues of credibility, dependability, confirmability, and transferability. To enhance credibility, the final step of data analysis involved member reflections, where two interview participants were invited to review and provide feedback on the findings.[18] Two participants were approached to minimise challenges involved with re-engaging all participants.[13,19,20] Member reflections confirmed that findings accurately represented their experiences. Peer debriefing was also performed, with KT meeting with MN throughout the data collection and analysis process. To improve dependability and confirmability, an audit trail was maintained. KT and MN kept a diary throughout the data collection and analysis process, practicing reflexivity by acknowledging their individual backgrounds, education, values, views and how this may impact on the data collection and analysis. These entries and thoughts were shared and discussed during the peer debriefing sessions. For example, it was noted during the debriefs that Microsoft Teams interviews were longer and provided more detail in comparison to the telephonic interviews. Although all questions were answered by participants, some responses were brief compared to the interviews performed via Teams. To ensure transferability, relevant quotes from participants are provided to support the themes identified.

Results and discussion

In keeping with models of reporting qualitative research, a combined analytical results and discussion is presented.[21–23] Table 2 presents an overview of the participant characteristics. All 12 radiographers started their career in the emergency setting and transitioned to non-emergency settings these past one to five years. Participants were divided into two groups, similar to the study by Nightingale.[3] This allowed for comparison between the responses

Table 1
The data analysis process utilising Colaizzi's seven step approach.

Data Analysis Step	Description
Step One: Familiarisation	Familiarising with the data by reading through all participant transcripts twice.
Step Two: Identifying significant statements	After all transcripts were reviewed twice, all statements in the accounts that were of direct relevance to the phenomenon under investigation were identified. These significant statements were collated in Microsoft Word files, sorted by participant number, in preparation for Step Three.
Step Three: Formulating meanings	Identifying meanings relevant to the phenomenon through careful analysis of significant statements. This was performed by manually coding the Microsoft Word files, with meanings annotated for each significant statement.
Step Four: Clustering themes	Clustering the identified meanings into themes that were common across all accounts. This included developing and refining the thematic maps, producing Figs. 1–3.
Step Five: Developing an exhaustive description	Constructing a comprehensive and inclusive description of the phenomenon, incorporating all themes identified in the previous step. Descriptions were reviewed by MN to ensure each participant had been represented.
Step Six: Producing the fundamental structure	Condensing the exhaustive description into brief, dense statements that capture only the aspects considered essential to the structure of the phenomenon. All involved researchers reviewed and came to an agreement on the final findings.
Step Seven: Seeking verification of the fundamental structure	Conducting member reflections with two participants invited via email to review and provide feedback on the findings. No changes were made, as participants confirmed that the findings accurately reflected their experiences.

Table 2
The characteristics of the participants interviewed.

Participant	Gender	Years of practice in emergency imaging setting	Years since the transition	Current clinical setting
P1 LS	Female	8	1	Private
P2 LS	Female	8	4	Private
P3 LS	Female	8	1	Private
P4 LS	Female	20	3	Private
P5 ES	Male	2	3	Non A&E NHS
P6 ES	Male	4	1	Agency (Non A&E)
P7 ES	Female	4	2	Agency (Non A&E)
P8 LS	Female	9	1	Non A&E NHS
P9 ES	Female	4	3	Non A&E NHS
P10 LS	Female	8	1	Private
P11 ES	Female	2	2	Non A&E NHS
P12 ES	Female	2	1	Non A&E NHS

of early stage and later stage career radiographers. Radiographers with 1–5 years of experience were placed in the early-stage career group. Those with 5 or more years of experience were placed in the later-stage career group. In Table 2, early-stage career radiographers are denoted by (ES). Later-stage career radiographers are denoted by (LS).

Three main themes were identified relating to (1) the past: reasons for transitioning, (2) the present: current thoughts on wellbeing and professional development, and (3) the future: possibility of returning to the emergency setting.

The past: reasons for transitioning

Fig. 1 provides a visual summary of the reasons why participants left the emergency setting.

Occupational pressures

Excessive workloads and staff shortages contributed to physical and mental exhaustion. These findings are similar to those reported by Nightingale et al.[2,3] Participants explained that due to exhaustion, basic needs were not always prioritised.

> *"The hours that I was working, it felt really intense when you were there, probably due to like short staffed and it's just more workload in A&E."* (P7 ES Female)

> *"You go home especially after a long day in A&E, you don't want to eat, you just want to go to bed. You just want to crawl into your bed and just go to sleep and then you have to wake up the next morning and do the same thing again."* (P12 ES Female)

Moral distress was also evident, with the care provided to patients compromised due to time constraints. This form of distress occurs when radiographers recognise the ethically correct course of

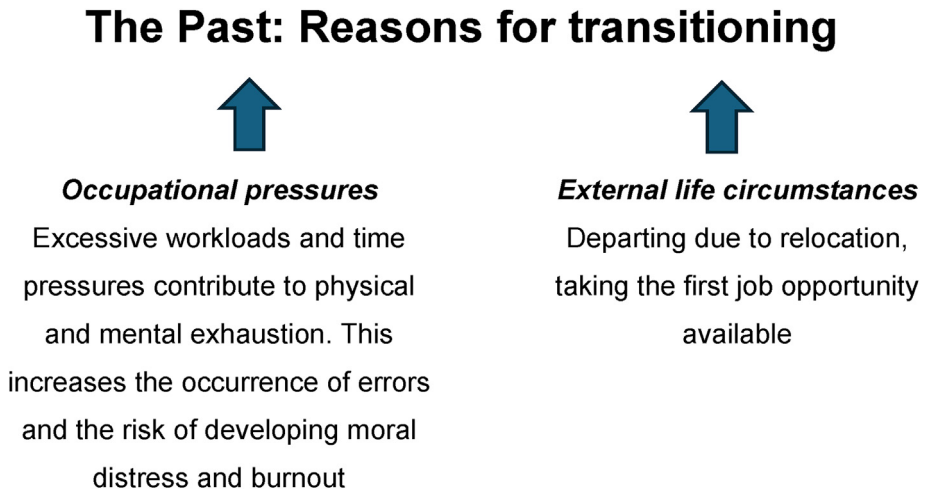

Figure 1. Thematic map summarising reasons for transitioning.

action but feel unable to pursue it due to institutional limitations such as staff shortages and excessive workload.[24–29]

> *"Patient safety is why I left because I felt like I was putting my license at risk and endangering the lives of people and that in itself is an awful feeling… you think about how you would feel if your family member was the one you were giving this care because you don't have time."* (P3 LS Female)

Working irregular hours, especially night shifts, disrupted participants' sleep patterns and left insufficient time for adequate rest and recovery. The challenge of managing irregular schedules can lead to adverse health effects, with night shifts often promoting unhealthy eating habits.[30]

> *"I would come back from a night shift, I would sleep the whole day and wake up and go to another night shift and there was no time to recover."* (P12 ES Female)

Exhaustion, a sense of being underappreciated, stress and pressure during out-of-hours shifts increased the occurrence of errors. This left one participant fearing potential disciplinary action.

> *"I was exhausted, and you never really feel like the work you do is appreciated or enough… I thought I was going to have a disciplinary action… there was an error where on a night shift, two patients had a scan and one of the scans was misplaced… you're just like, oh, is this because maybe of my work ethic, or how I'm getting things done, or is this because of the pressure of the environment that you're in and the truth is, it's because of the pressure."* (P3 LS Female)

> *" I couldn't be in an A&E department without getting myself worked up and stressed… I started to make like small mistakes from being stressed and I just I had to walk away from that."* (P8 LS Female)

Research in the field of radiography report a correlation between shift work and an increased risk of not only errors occurring[31] but occupational burnout.[32,33] Although this phenomenon was not formally evaluated, the challenges reported by participants emphasise a need for improved support systems for staff working in emergency and trauma imaging. Implementing flexible working initiatives, as recommended by Nightingale et al.[2] could help alleviate pressure by offering more adaptable schedules that accommodate rest and recovery. Ensuring adequate rest periods after night shifts is crucial to reduce fatigue and the risk of burnout, while also minimising the occurrence of errors caused by exhaustion.[2,31,34]

External life circumstances

Not all participants left the emergency setting because of occupational pressures. Some enjoyed their role, departing the emergency setting due to relocation and taking the first job opportunity available.

> *"I was superintendent at the (hospital) in A&E when I left and I was enjoying it. I was very happy and loved it, but we knew we couldn't do it forever and like my partner as well, his work and things, so it was just kind of the right time to make the move."* (P4 LS Female)

> *"I left to be able to move … I didn't specifically choose non-A&E, but I just took the first chance I could at coming to London."* (P5 ES Male)

The present: current thoughts on well-being and professional development

Fig. 2 provides a visual summary of theme two. All participants explained that current shift patterns were more favourable in their current role.

Positive health and lifestyle changes

Participants had greater work life balance in their current roles. They were able to spend more time with family.

> *"There's much more work life balance. You don't feel like you're taking the daily stresses of your work home with you."* (P8 LS Female)

> *"I'm guaranteed a day off during the week in the private sector… it's really good, I get to plan activities for my family."* (P1 LS Female)

More energy to do things outside of work left participants feeling physically and mentally healthier and happier. In some cases, this resulted in less reliance on prescribed medication or substance use, to moderate the effects of shift work on mental health.[35]

Figure 2. Thematic map summarising current thoughts on well-being and professional development.

"Definitely happier now with my work situation… I'd say I'm not as tired, so I've got more energy to do other things outside of work." (P6 ES Male)

"I was on antidepressants for the first time in my life, and I gradually came off those and I don't need those anymore. I don't have that stress and anxiety." (P10 LS Female)

In non-emergency settings, the reduced requirement for manual handling helped alleviate musculoskeletal strain. The opportunity to take breaks, sit down, and reduce physical exertion reduced fatigue and back pain.

"… pushing trollies and stuff like that, and now I do a lot less of that. There's less movement and handling… I come home with less fatigue, less stress, less back aches… you don't really need to exert as much force or pressure. Whereas with A&E… 10 people, 20 people, 30 people coming in within half an hour and it just becomes a lot when you're constantly on your feet and you have no time to sit." (P12 ES Female)

"Physically maybe better because you're doing less manual handling …" (P5 ES Male)

This finding is noteworthy given that back pain is a widespread concern among radiographers worldwide.[36–39] In high-pressure situations such as the emergency setting, the urgency to save time may lead to the neglect of proper manual handling techniques, increasing the risk of injuries among radiographers.[40,41]

Job satisfaction

A renewed sense of job satisfaction was reported in participants' current roles, feeling that they could provide higher quality care and build rapport with patients. Similar to findings from Nightingale et al., participants expressed a strong love for their profession and found interactions with patients to be highly rewarding.[3] They valued having more time in their current roles to ensure that patients felt acknowledged and cared for.

"But now I actually find that in the role I'm in, there's more patient interaction, so you can actually build that relationship with the patient rather when you're in A&E, it's kind of everything's go, go, go kind of production line …" (P8 LS Female)

"There's no time to actually talk to your patients and in private, they're a bit more relaxed with their timings and you can actually sit and have a talk with your patients… my goal is to give the best care I can to the patients, whoever they are, wherever they are. So to have that extra time is just a bonus." (P10 LS Female)

Fear of de-skilling

Early-career radiographers, expressed concern about losing critical radiography skills, a concept they referred to as "de-skilling". This fear was tied to the nature of their current work which was deemed less challenging than in emergency departments.

"But I do feel when you're working in a place like this you do become slightly de-skilled in comparison to when you're working in an A&E… you probably use your brain more when you're working in A&E just because you have to." (P12 ES Female)

"… I know that if I may be staying in this environment for too much you know longer then potentially in terms of x-ray my skills could go down." (P6 ES Male)

The future: possibility of returning to the emergency setting

Fig. 3 provides a visual summary of the factors influencing the possibility of returning to the emergency setting. Nine participants stated they would return under the right conditions. When considering the possibility of returning to emergency settings, four key factors were identified: (1) *work environment,* (2) *career advancement*, (3) *competitive salary, and (4) improved mental health* support.

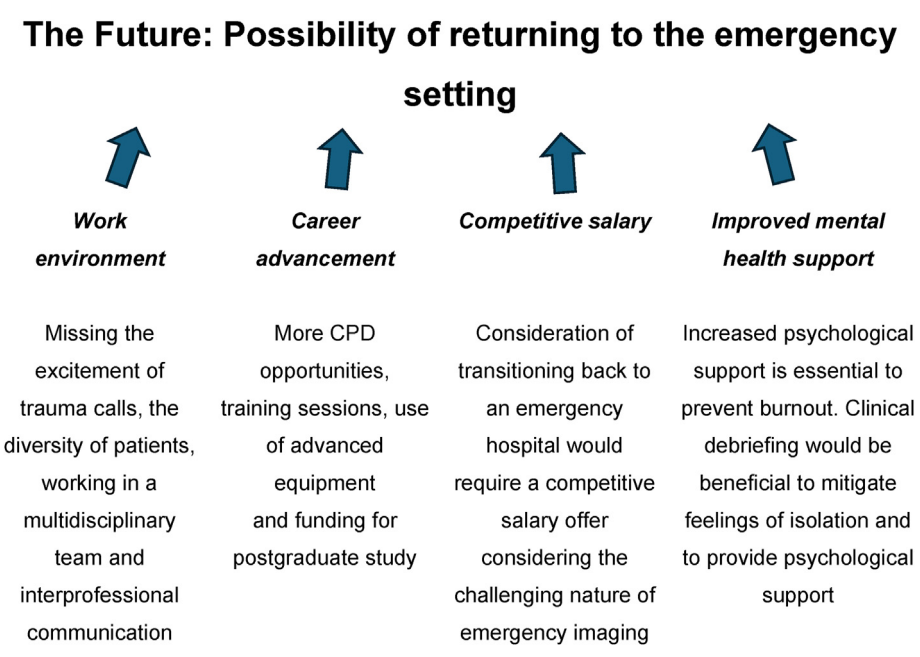

Figure 3. Thematic map summarising factors influencing the possibility of returning to the emergency setting.

Work environment

Some participants expressed a longing for the excitement and diversity inherent in emergency settings, which they found lacking in their current roles. This yearning created a growing desire, or "itch" to return to emergency imaging. The cases encountered in emergency settings were more dynamic and complex, keeping radiographers engaged, excited, and motivated.

> *"I'm already getting the itch... I think the lack of variety and days sometimes being a bit more the same, whereas in A&E, obviously every day is a bit mad and different… Just the excitement of A&E. I like the blood and guts, to be honest, and trauma calls. I love trauma calls."* (P4 LS Female)

> *"In my private sector job, literally every single patient that walks through the door is the same. They're fairly healthy. They've just come for a routine checkup, or they've come for a pre-assessment for a job. That's it. Like it's ticking those boxes. The NHS, you get different shapes, different sizes, different ethnicities."* (P1 LS Female)

However, not all participants were as certain about their future paths. One radiographer was torn between the excitement of emergency work and the toll it took on their mental health and wellbeing.

> *"You're seeing a lot of similar things every day, whereas when you worked in A&E, you didn't know what was going to come through the door, so it felt exciting because you were like, didn't know what was going to happen and you're just a bit more, I guess, adrenaline rush. But I think it's hard, isn't it? Because it's like, do you pick having stuff that's more exciting to scan, more variation, or do you prioritise your sort of mental health and wellbeing?"* (P7 ES Female)

Some participants also missed the interprofessional nature of the emergency setting, where they valued the opportunity to collaborate within a multidisciplinary team and build relationships with doctors and other allied health professionals. Early career radiographers missed the social aspect of working in a large emergency hospital.

> *"I think the A&E was probably better communication and better interprofessional working because you knew all of the A&E doctors and the teams better than you do here. We don't really integrate with any of the teams, so we don't know them as much."* (P9 ES Female)

> *"When you're working in A&E there's like a million and one staff there that you can just kind of talk to and communicate with … it's the variety of people that you communicate with… I think I probably prefer working in A&E like there's more people to kind of you know socialise with."* (P12 ES Female)

Career advancement

Continuing professional development (CPD) opportunities were greater in emergency settings due to the broader exposure to advanced equipment and training sessions. One participant expressed frustration with the repetitive nature of their current role, sensing they were 'plateauing'. The dynamic environment of emergency imaging provided a greater sense of achievement which was a key motivator for their desire to return. This sentiment aligns with the findings of Tran et al., who reported that while newly qualified radiographers view emergency and trauma imaging as challenging, it also offers rewarding experiences and substantial learning opportunities.[10]

> *"The CPD options are more. You get a lot more talks over lunchtime… you get more people that are willing to just come and demonstrate different things because they've got different machines… equipment that they want to show off."* (P1 LS Female)

> *"The 20th sort of AP chest in a bed in a day isn't the same as the excitement of a trauma call someone with a lateral hip and their foot is dangling off… I'm slightly plateauing and I feel like yeah, I want to have more, more of a dynamic experience in CT and x-ray… I think in A&E you feel like you're making more of a difference, I think with a sense of urgency and consequence, comes a sense of achievement... I'm planning on going back."* (P5 ES Male)

Having already developed substantial skills and experience from their previous roles in emergency imaging, later-career radiographers were more reluctant to return due to the demands of shift work. However, they appreciated the foundational knowledge and skills they obtained from working in large emergency settings and the funded opportunities available to pursue postgraduate studies.

> *"I mean, my first seven years of my career was in trauma imaging in a big A&E department, and I feel like I've built up the skills I need now… I think I'm at a point in my career where I don't want to do shift work anymore."* (P8 LS Female)

> *"They were quite encouraging, even though it's the NHS and there doesn't seem to be a lot of money. There was always kind of money to do courses like people were doing reporting. People were doing CT postgrad, MRI postgrad… there's less of that where I am now."* (P4 LS Female)

Competitive salary

Remuneration was identified as another factor influencing the decision to return. Some explained that any consideration of transitioning back to an emergency hospital would require a competitive salary offer. In their opinion, the challenging nature of emergency work deserved higher pay. Frustration was evident over the gap between the demands of emergency imaging and the remuneration received in previous roles.

> *"So for me to go… to a hospital that actually has an A&E, I would say they would have to match my pay."* (P3 LS Female)

> *"I think we should be paid more… you do work like a donkey basically… long days and A&E were part of just like our normal shift."* (P11 ES Female)

Improved mental health support

Participants expressed the need for better quality mental health support to retain radiographers in the emergency setting. It was recognised that newly qualified radiographers could quickly reach burnout due to a lack of psychological support.

> *"There's no mental support when you get like literally exhausted and burnt out, there's nowhere to go."* (P8 LS Female)

One radiographer reflected on the camaraderie and sense of belonging within a multidisciplinary team, emphasising the benefits of clinical debriefing. Despite the difficulties associated with confronting deaths in the emergency setting, the opportunity to debrief and not feel isolated provided valuable psychological support. Indeed, research conducted during the COVID-19 pandemic highlighted the value of healthcare workers' access to supportive psychological therapy services for better mental health and wellbeing.[42,43]

> *"It's obviously horrible watching people die… people who are sick and die on the scanner and stuff. But the team within A&E were*

very supportive. We always did debrief, and it always felt like it was a team effort, and you weren't isolated, which was quite nice." (P2 LS Female)

This insight is consistent with existing literature highlighting the benefits of clinical debriefing for radiographers working in emergency and trauma imaging.[10] Debriefing provides a structured opportunity for healthcare professionals to reflect on challenging cases, process emotions, and receive support in high-pressure clinical settings.[44–46] However, despite its acknowledged benefits, there is currently no standardised or universally accepted framework for conducting effective clinical debriefing within the field of radiography.[44,47,48]. Further research into radiographers' experiences with clinical debriefing could be crucial in identifying best practices and establishing a consistent approach. These insights could inform the creation of formal guidelines, ultimately supporting radiographers' well-being and improving staff retention in emergency imaging settings.

Study limitations and future research

Qualitative research is not intended to produce generalisable findings, and the results presented here reflect solely the experiences of the radiographers in this sample. The study was conducted exclusively with participants from the UK. Future research could benefit from including radiographers from diverse regions worldwide. This would facilitate interesting comparative analyses. Some participants were known to the interviewer, KT, a diagnostic radiographer, which is difficult to avoid in the small field of radiography. This familiarity may have introduced potential participant bias. Furthermore, it should be acknowledged that occupational burnout in radiographers was not a primary focus of this study and was therefore not formally evaluated in this work. However, as many of the participants alluded to it during their interviews, it naturally arose as a cross-cutting theme. Future studies could consider further exploring any association between radiographer burnout and practice transition, as has been previously observed in other healthcare workers.[49,50]

Conclusion

The findings of this study highlight the valuable learning experiences available to diagnostic radiographers in emergency settings, which significantly enhances their skills and overall competence. However, challenges including excessive workloads, staff shortages, and time pressures can lead to job dissatisfaction and a desire to leave. Rather than departing from the profession altogether, some radiographers re-discovered job satisfaction transitioning to non-emergency imaging settings. Most of the radiographers in this study would consider returning to emergency imaging, under the right conditions. Implementing more flexible work arrangements, ensuring ample career advancement opportunities, competitive salary offers, and providing enhanced mental health support through effective clinical debriefing, could help attract and retain diagnostic radiographers in emergency settings.

Conflict of interest statement

None.

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References

1. Daniels J, Robinson E, Jenkinson E, Carlton E. Perceived barriers and opportunities to improve working conditions and staff retention in emergency departments: a qualitative study. *Emerg Med J* 2024;**41**(4):257–65. https://doi.org/10.1136/emermed-2023-213189.
2. Nightingale J, Burton M, Appleyard R, Sevens T, Campbell S. Retention of radiographers: a qualitative exploration of factors influencing decisions to leave or remain within the NHS. *Radiography* 2021;**27**(3):795–802. https://doi.org/10.1016/j.radi.2020.12.008.
3. Nightingale J, Sevens T, Appleyard R, Campbell S, Burton M. Retention of radiographers in the NHS: influencing factors across the career trajectory. *Radiography* 2023;**29**(1):76–83. https://doi.org/10.1016/j.radi.2022.10.003.
4. Pillay M, Nkosi PB, Sibiya MN. Factors that influence resignations of radiographers employed by tertiary hospitals in the KwaZulu-Natal province, South Africa. *Afr Health Sci* 2023;**23**(1):638–45. https://doi.org/10.4314/ahs.v23i1.68.
5. Chong ST, Robinson JD, Davis MA, Bruno MA, Roberge EA, Reddy S, et al. Emergency radiology: current challenges and preparing for continued growth. *J Am Coll Radiol* 2019;**16**(10):1447–55. https://doi.org/10.1016/j.jacr.2019.03.009.
6. Ocean N, Meyer C. Satisfaction and attrition in the UK healthcare sector over the past decade. *PLoS One* 2023;**18**(4):e0284516. https://doi.org/10.1371/journal.pone.0284516.
7. *NHS England diagnostic imaging dataset annual statistical release 2022/23 [internet]*. Available from: https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2023/11/Annual-Statistical-Release-2022-23-PDF-1.3MB-1.pdf.
8. Konstantinidis K. The shortage of radiographers: a global crisis in healthcare. *J Med Imag Radiat Sci* 2024;**55**(4):101333. https://doi.org/10.1016/j.jmir.2023.10.001.
9. Sipos D, Jenei T, Kövesdi OL, Novák P, Freihat O, Tollár J, et al. Burnout and occupational stress among Hungarian radiographers working in emergency and non-emergency departments during COVID-19 pandemic. *Radiography* 2023;**29**(3):466–72. https://doi.org/10.1016/j.radi.2023.02.013.
10. Tran M, Lin L, Cowell H, Makanjee C, Hayre CM, Lewis S. An exploratory study on recently qualified Australian radiographers' expectations and experiences in emergency and trauma imaging. *J Med Imag Radiat Sci* 2023;**54**(1):97–103. https://doi.org/10.1016/j.jmir.2022.11.015.
11. Husserl E, Moran D. *Ideas: general introduction to pure phenomenology*. Routledge; 2012.
12. Northall T, Chang E, Hatcher D, Nicholls D. The application and tailoring of Colaizzi's phenomenological approach in a hospital setting. *Nurse Res* 2020;**28**(2). https://doi.org/10.7748/nr.2020.e1700.
13. Ataro G. Methods, methodological challenges and lesson learned from phenomenological study about OSCE experience: overview of paradigm-driven qualitative approach in medical education. *Annals of Medicine and Surgery* 2020;**49**:19–23.
14. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. *Qual Health Res* 2016;**26**(13):1753–60. https://doi.org/10.1016/j.amsu.2019.11.013.
15. Colaizzi PF. *Psychological research as the phenomenologist views it. Existential phenomenological alternatives for psychology*. Oxford University Press Inc; 1978.
16. Morrow R, Rodriguez A, King N. Colaizzi's descriptive phenomenological method. *Psychol* 2015;**28**(8):643–4.
17. Brooks J. Learning from the lifeworld: introducing alternative approaches to phenomenology in psychology. *Psychol* 2015;**28**(8):642–3.
18. Tracy SJ. Qualitative quality: eight "big-tent" criteria for excellent qualitative research. *Qual Inq* 2010;**16**(10):837–51. https://doi.org/10.1177/1077800410383121.
19. Giorgi A. *The descriptive phenomenological method in psychology: a modified Husserlian approach*. Duquesne university press; 2009.
20. Carlson JA. Avoiding traps in member checking. *Qual Rep* 2010;**15**(5):1102–13.
21. Levitt HM, Bamberg M, Creswell JW, Frost DM, Josselson R, Suárez-Orozco C. Journal article reporting standards for qualitative research in psychology: the APA publications and communications board task force report. *Am Psychol* 2018;**73**(1):26–46.
22. Herrera H. Qualitative methods in pharmacy practice research. *Encyclopedia of Pharmacy Practice and Clinical Pharmacy* 2019:29–38.
23. Thelwall M. The rhetorical structure of science? A multidisciplinary analysis of article headings. *J Inform* 2019;**13**(2):555–63. https://doi.org/10.1016/j.joi.2019.03.002.
24. Jameton A. *Nursing practice: the ethical issues*. Englewood Cliffs, N.J.: Prentice-Hall; 1984.
25. Dave P, Brook OR, Brook A, Sarwar A, Siewert B. Moral distress in radiology: frequency, root causes, and countermeasures—results of a national survey. *Am J Roentgenol* 2023;**221**(2):249–57. https://doi.org/10.2214/AJR.22.28968.
26. Ohene-Botwe B, Antwi WK, Ohene-Gyimah S, Akudjedu TN. Examining moral distress and injury resulting from the COVID-19 pandemic: insights from the

Ghanaian radiography workforce. *J Med Imag Radiat Sci* 2024;**55**(4):101448. https://doi.org/10.1016/j.jmir.2024.101448.
27. Hale T, Wright C. Unprofessional practice and student professionalism dilemmas: what can radiography learn from the other health professions? *Radiography* 2021;**27**(4):1211–8. https://doi.org/10.1016/j.radi.2021.06.012.
28. Plouffe RA, Nazarov A, Forchuk CA, Gargala D, Deda E, Le T, et al. Impacts of morally distressing experiences on the mental health of Canadian health care workers during the COVID-19 pandemic. *Eur J Psychotraumatol* 2021;**12**(1): 1984667. https://doi.org/10.1080/20008198.2021.1984667.
29. Riedel P, Kreh A, Kulcar V, Lieber A, Juen B. A scoping review of moral stressors, moral distress and moral injury in healthcare workers during COVID-19. *Int J Environ Res Publ Health* 2022;**19**(3):1666. https://doi.org/10.3390/ijerph19031666.
30. Samhat Z, Attieh R, Sacre Y. Relationship between night shift work, eating habits and BMI among nurses in Lebanon. *BMC Nurs* 2020;**19**:1–6.
31. Elliott J, Williamson K. The radiology impact of healthcare errors during shift work. *Radiography* 2020;**26**(3):248–53. https://doi.org/10.1016/j.radi.2019.12.007.
32. Elliott J, Hodges C, Boots M, Pattinson R, Gillen E, Whybrow D, et al. Mixed shift rotations, sleep, burnout and well-being in professions similar to radiographers: a systematic review. *Radiography* 2024;**30**(4):1194–200. https://doi.org/10.1016/j.radi.2024.05.016.
33. Ooi J, Er A, Lee WC, Chee HC. The 12-hour shift: radiographers' perspectives and its applicability during a pandemic. *Radiography* 2021;**27**(2):512–8. https://doi.org/10.1016/j.radi.2020.11.007.
34. Brown JP, Martin D, Nagaria Z, Verceles AC, Jobe SL, Wickwire EM. Mental health consequences of shift work: an updated review. *Curr Psychiatr Rep* 2020;**22**:1–7.
35. Dorrian J, Heath G, Sargent C, Banks S, Coates A. Alcohol use in shiftworkers. *Accid Anal Prev* 2017;**99**:395–400. https://doi.org/10.1016/j.aap.2015.11.011.
36. Alrowayeh HN, Alnaser MZ, Alshatti TA, Saeed RS. Prevalence and risk factors of work-related lower back pain among radiographers in the state of Kuwait. *Radiology Research and Practice* 2021;**2021**(1):5365260. https://doi.org/10.1155/2021/5365260.
37. Fernandes K, Sá Dos Reis C, Serranheira F. Radiographers' musculoskeletal health in Western Switzerland: WRMSDs symptoms prevalence and risk factors. *Work* 2023;**74**(4):1527–37. https://doi.org/10.3233/WOR-211379.
38. Fallon B, England A, Young R, Moore N, McEntee M. Prevalence of low back pain among Irish radiographers. *J Med Imag Radiat Sci* 2023;**54**(2):273–80. https://doi.org/10.1016/j.jmir.2023.01.006.
39. Donkor A, Anyitey-Kokor IC, Tutu EO, Bosomtwe D, Adjei A, Wiafe YA. Work-related back pain among diagnostic radiographers in Ghana: a qualitative study. *Radiography* 2024;**30**(4):1187–93. https://doi.org/10.1016/j.radi.2024.06.002.
40. Noble NL, Sweeney NL. Barriers to the use of assistive devices in patient handling. *Workplace Health & Saf* 2018;**66**(1):41–8. https://doi.org/10.1177/2165079917697216.
41. Ngo M, Schneider-Kolsky M, Baird M. The attitudes of Australian radiography students towards the use of assistive transfer devices to reduce biomechanical stress in the clinical setting. *Radiography* 2013;**19**(2):125–9. https://doi.org/10.1016/j.radi.2013.01.003.
42. Hooper JJ, Saulsman L, Hall T, Waters F. Addressing the psychological impact of COVID-19 on healthcare workers: learning from a systematic review of early interventions for frontline responders. *BMJ Open* 2021;**11**(5):e044134. https://doi.org/10.1136/bmjopen-2020-044134.
43. Buselli R, Corsi M, Veltri A, Baldanzi S, Chiumiento M, Del Lupo E, et al. Mental health of Health Care Workers (HCWs): a review of organizational interventions put in place by local institutions to cope with new psychosocial challenges resulting from COVID-19. *Psychiatr Res* 2021;**299**:113847. https://doi.org/10.1016/j.psychres.2021.113847.
44. Paxino J, Szabo RA, Marshall S, Story D, Molloy E. What and when to debrief: a scoping review examining interprofessional clinical debriefing. *BMJ Qual Saf* 2024;**33**(5):314–27. https://doi.org/10.1136/bmjqs-2023-016730.
45. Sjöberg F, Schönning E, Salzmann-Erikson M. Nurses' experiences of performing cardiopulmonary resuscitation in intensive care units: a qualitative study. *J Clin Nurs* 2015;**24**(17–18):2522–8. https://doi.org/10.1111/jocn.12844.
46. Healy S, Tyrrell M. Importance of debriefing following critical incidents. *Emerg Nurse* 2013;**20**(10). https://doi.org/10.7748/en2013.03.20.10.32.s8.
47. Phillips EC, Smith SE, Tallentire V, Blair S. Systematic review of clinical debriefing tools: attributes and evidence for use. *BMJ Qual Saf* 2024;**33**(3): 187–98. https://doi.org/10.1136/bmjqs-2022-015464.
48. Toews AJ, Martin DE, Chernomas WM. Clinical debriefing: a concept analysis. *J Clin Nurs* 2021;**30**(11–12):1491–501. https://doi.org/10.1111/jocn.15636.
49. Adriaenssens J, De Gucht V, Maes S. Determinants and prevalence of burnout in emergency nurses: a systematic review of 25 years of research. *Int J Nurs Stud* 2015;**52**(2):649–61. https://doi.org/10.1016/j.ijnurstu.2014.11.004.
50. Stefanovska-Petkovska M, Stefanovska VV, Bojadjieva S, Bojadjieva MI. Psychological distress, burnout, job satisfaction and intention to quit among primary healthcare nurses. *Health Serv Manag Res* 2021;**34**(2):92–8. https://doi.org/10.1177/0951484820971444.