

From classroom to clinical practice: Education, training and preparedness for imaging people from prison in diagnostic radiography

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ABSTRACT

Introduction: Diagnostic radiographers perform examinations to support care for people from prison in acute hospitals, yet it remains unclear whether diagnostic radiography education in the UK adequately prepares students and practising radiographers to support this population. This study examined current education and provision of training, perceived preparedness and educational needs among diagnostic radiography students, HEI educators and practising diagnostic radiographers in the UK.

Methods: This exploratory cross-sectional study used an online structured questionnaire completed by diagnostic radiography students, practising diagnostic radiographers and higher education educators in the UK. Quantitative data were analysed using descriptive statistics. An inductive qualitative content analysis was completed for the open-ended responses, and categories were compared across participant groups to identify convergence and divergence.

Results: Forty participants completed the questionnaire: 11 students, 8 educators and 21 practising diagnostic radiographers. Only two practising radiographers reported receiving relevant training during their radiography education. No student reported receiving specific programme education, although one received relevant information during clinical placement and no educator reported relevant curriculum content. Further education was supported by nine students, seven educators and 16 practising radiographers. Fifteen practising radiographers reported that their departments lacked relevant policies. Four overarching categories concerned safety and procedural knowledge; communication and psychosocial care; confidence and preparedness; and integrated education and specific organisational guidance.

Conclusion: Education and training provision was limited across all three groups, while organisational guidance varied. Participants identified safety and procedural knowledge and communication and psychosocial care as educational priorities, with confidence, preparedness and equitable care as intended outcomes.

Implication for practice: Proportionately integrating relevant content through academic teaching, simulation and supervised clinical learning, alongside CPD and departmental guidance, may strengthen safe, equitable and consistent imaging for people from prison.

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Introduction

The term **Inclusion Health** refers to a healthcare approach that prioritises “people who are socially excluded, typically experience

multiple overlapping risk factors for poor health, experience stigma and discrimination, and are not consistently accounted for in electronic records”.¹ This includes people involved with the criminal justice system, including people in prison.²

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In England and Wales, more than 86,000 people are detained in prison.³ In this study, “people from prison” refers to individuals transferred from a prison setting to an acute hospital for imaging examinations while remaining under prison custody. The word “from” identifies the immediate origin of the healthcare journey and the transition between the two institutional settings. It does not indicate release from prison or previous imprisonment. This terminology distinguishes people attending external acute hospital services from those receiving healthcare within prison.

People in prison represent one of the most vulnerable and marginalised populations in the world,^{4,5} who experience disproportionately high rates of communicable and chronic diseases such as HIV, hypertension, tuberculosis and hepatitis C compared with the general population.^{6–8} This is due to prevalent risk factors such as overcrowding, poor nutrition, intravenous drug use and poor ventilation.^{9–12} Many of these health conditions require imaging examinations for diagnosis and ongoing management, which are often not available in prison hospitals. Consequently, people in prison may require referral to acute hospitals for specialist care.¹³

Diagnostic radiographers are registered allied healthcare professionals who provide imaging examinations in acute hospitals and play a key role in the diagnostic pathway for people from prison. However, their work with this population sits within “A national framework for NHS action on inclusion health” published by NHS England.¹⁴ The third principle of the framework, develop the workforce for inclusion health, requires all staff to be equipped to deliver compassionate, trauma-informed and equitable care, with accessible and mandatory training so staff understand entitlement to care and can provide personalised and dignified support.¹⁴ For diagnostic radiography, this implies explicit preregistration curriculum content and continuing professional development (CPD). Despite increasing recognition of inclusion health within healthcare policy and education, little attention has been applied to the application in diagnostic radiography practice and education.

A scoping review of undergraduate medical curricula found teaching on Inclusion Health is typically optional, short in duration and rarely integrated across programmes, with little evidence of co-production with people with lived experience.¹⁵ Within the prison setting, a recent qualitative study highlighted healthcare professionals frequently lacked specialist preparation for the prison setting and identified clear training needs.¹⁶ Additionally, a systematic review of nursing students' experiences of clinical placements in prison identified that standardised preparation and orientation, with supported exposure, can reduce stigma and enhance learning outcomes.¹⁷

Regardless of growing research on the education and training needs of healthcare professionals caring for people from prison,^{15–17} there is limited empirical evidence on whether diagnostic radiography education and practice in the UK prepare diagnostic radiographers and students to adequately support and care for people from prison in acute hospital settings. A recent survey in the UK identified limited specific training among practising diagnostic radiographers when imaging people from prison in acute hospitals.¹⁸ However, the study did not examine preregistration curriculum provision or include diagnostic radiography students and higher education educators.¹⁸ This study aimed to address this gap by examining current education and training provided, perceived preparedness and educational needs among diagnostic radiography students, higher education educators and practicing diagnostic radiographers in the UK. To our knowledge, this is the first multi-cohort study from the UK to examine education and provision of training on supporting and imaging people from prison across three diagnostic radiography groups.

Methods

Study design and setting

This study employed an exploratory cross-sectional study design. This design enabled the collection of descriptive data across multiple questionnaire domains to support identification of patterns and prevalence.^{19,20} This study was conducted across the UK to ensure broader representation of the study participants across various administrative regions.

Sample and sampling technique

The sample for this study involved three different population groups, diagnostic radiography students, Higher Education Institution (HEI) educators in diagnostic radiography and practicing diagnostic radiographers in the UK. Eligibility for inclusion was based on belonging to one of these populations in the UK and potential participants' willingness to share their perspectives. The exact eligible population size for these cohorts could not be determined because there was no single accessible national sampling frame covering all three groups. Participants were recruited through a self-selection sampling technique.²¹ The self-selection sampling enabled participation from individuals with direct educational or clinical experience relevant to the study aims. A formal sample size calculation was not undertaken because the study was exploratory, descriptive and did not seek to test hypotheses or estimate population parameters.

Questionnaire design and validation

The research team developed a questionnaire with different questions for each of the population groups because no existing radiography instrument addressed education and training needs for imaging people from prison in acute hospitals. The content of the questionnaire was informed by the study aim and the expertise of the research team in diagnostic radiography education, clinical practice and prison healthcare.

The questionnaire contained 26 questions across five sections, comprising 16 closed response and 10 open response questions. The questionnaire contained both closed questions to facilitate descriptive statistics and open questions to elicit explanatory textual responses.²² Section 1 collected demographic and professional information. Questions for diagnostic radiography students examined programme education, clinical placement information and perceived need for further education. Questions for HEI educators examined current curriculum content, curriculum adequacy, additional content and preferred learning settings. Questions for diagnostic radiographers examined previous education, need for additional training, preferred learning settings, frequency of encounter and departmental policies. A final open question invited additional responses from all participants. The closed ended questions provided information from each of the cohort on previous education and training, curriculum provision, perceived educational need, preferred learning settings, clinical exposure and departmental policies. These findings described the distribution of responses within each population group. The open-ended questions elicited explanations of previous training, recommended educational content, reasons for further preparation and preferred delivery approaches. Together, the questions addressed the study aim and objectives by identifying the extent, nature and context of perceived education and training needs.

The questionnaire was written in English and provided as [Supplementary File 1](#). A pilot study was not conducted due to the exploratory aim and nature of the project,²³ which is acknowledged as a limitation. However, content validity of the questionnaire was supported through expert review by three senior academics with experience in prison healthcare, diagnostic radiography research and education. They evaluated the questionnaire for clarity, relevance, readability and alignment with the study aims. Minor revisions were subsequently made to improve clarity of questions. Internal consistency using Cronbach's alpha was not computed, because the questionnaire was not a psychometric scale and included diverse question types aimed to capture broad perspectives rather than a single construct.²⁴

Data collection

Data collection was completed online through JISC Online Surveys (Joint Information Systems Committee Online Surveys version 3.33.0), a platform that is widely used for research purposes by higher education institutions and compliant with the General Data Protection Regulation.²⁵ The study was promoted on social media platforms such as LinkedIn and Twitter/X. In addition, invitations were shared via email and through verbal signposting at the UK Imaging and Oncology (UKIO) 2025 conference. No paper questionnaires, consent forms or data were collected in person. The survey was open for five months, from February 8th to June 30th, 2025. Periodic posts were made on social media platforms throughout the data collection to maximise participation.²⁶ As recruitment was conducted through open professional and online networks, the total number of eligible individuals who viewed or received the invitation could not be determined; therefore, a response rate could not be calculated. Responses were screened within the survey platform to identify potential duplicate submissions using timestamp comparisons and response patterns. No duplicate responses were identified.

Data analysis

All completed questionnaire responses were exported from JISC Online Surveys into Microsoft Excel and then transferred to SPSS (Statistical Package for the Social Sciences) Version 25 for statistical analysis. Descriptive statistics were used to summarise demographic characteristics, education and training exposure, and perceived educational needs across the three population groups. Inferential statistics were not appropriate due to the exploratory nature of the study, and the sample size obtained. This approach is consistent with recommendations that statistical analyses should be aligned with study objectives and sample size considerations.²⁷

The opened-ended responses were analysed using qualitative content analysis, following a published hands-on guide.^{28,29} Relevant meaning units were condensed, assigned descriptive codes and grouped into subcategories and categories, with analysis ending at the manifest category level rather than progressing to latent themes. Following this, the categories and sub-categories were compared across the three populations and integrated into overarching categories (as shown in [Supplementary File 2](#)). The initial coding and categorisation were performed by one member of the research team. The codes were then reviewed and refined in discussion with two members of the research team experienced in qualitative research.³⁰

Rigour and trustworthiness

Rigour was addressed using the criteria of credibility, dependability, confirmability and transferability.³¹ Credibility was

supported through repeated familiarisation with the open responses, iterative coding, separate analysis of each participant group and the use of illustrative quotations to demonstrate the connection between the data and categories.^{30,32} Dependability was supported through a documented audit trail provided in [Supplementary File 2](#).³³ Confirmability was supported through review and refinement of the codes and categories with two research team members experienced in qualitative research.³⁴ The description of the study context, participants and sampling process enables readers to assess the transferability of the findings to other settings.³⁵

Results

A total of 40 participants (as shown in [Table 1](#)) across the three population groups took part in the study. The quantitative results are presented through descriptive statistics, followed by integrated qualitative findings from content analysis of open-ended responses, organised into overarching categories and supported by illustrative quotes from each population group.

Participant demographics

The socio-demographic characteristics of the study are presented below in [Table 1](#).

Education and training provision and perceived educational needs

[Table 2](#) below presents education and training provision and perceived educational needs separately for students, HEI educators and practising diagnostic radiographers.

Percentages were calculated using the relevant denominator for each question

As shown in [Table 2](#), no students or educator reported relevant programme or curriculum content, although one student received information during clinical placement. Only 2 of 21 practising radiographers reported relevant training during their radiography education. Further provision was supported by 9 of 11 students, 7

Table 1
Participant demographics.

Current role	N	%
Practising diagnostic radiographer	21	52.5
Diagnostic radiography student	11	27.5
HEI educator	8	20.0
Total	40	100.0
Administrative region		
North West	9	22.5
Yorkshire and the Humber	8	20.0
Greater London	4	10.0
South East	4	10.0
South West	3	7.5
North East	3	7.5
West Midlands	3	7.5
Northern Ireland	2	5.0
East of England	2	5.0
East Midlands	1	2.5
Scotland	1	2.5
Total	40	100.0
Years of experience (radiographers and educators)		
0–2 years	4	13.8
3–5 years	7	24.1
6–10 years	7	24.1
More than 10 years	11	37.9
Total	29	100.0

Table 2

Education and training provision and perceived educational needs by each participant group.

Panel A. Diagnostic radiography students			
Question	Response	n	%
Received specific education or training within their radiography programme	Yes	0	0.0
	No	11	100.0
Received specific information during clinical placement	Yes	1	9.1
	No	10	90.9
Believed more education or training should be included in their programme	Yes	9	81.8
	No	2	18.2
Panel B. HEI educators			
Question	Response	n	%
Current curriculum included specific education or training	Yes	0	0.0
	No	8	100.0
Current curriculum adequately prepared students	Yes	1	12.5
	No	7	87.5
Believed additional content should be included in the curriculum	Yes	7	87.5
	No	1	12.5
Preferred setting for acquiring relevant skills among educators supporting additional content, n = 7	Academic	3	42.9
	Simulation activity	4	57.1
	Clinical practice	0	0.0
Panel C. Practising diagnostic radiographers			
Question	Response	n	%
Previous radiography education included relevant training	Yes	2	9.5
	No	19	90.5
Believed additional training should be included in radiography education	Yes	16	76.2
	No	5	23.8
Preferred setting for acquiring relevant skills among radiographers supporting additional training, n = 16	Clinical practice	10	62.5
	Academic	5	31.3
	Simulation activity	1	6.3

of 8 educators and 16 of 21 practising radiographers. Among those supporting further provision, educators most often selected simulation, whereas practising radiographers most often selected clinical practice.

Monthly and seasonal encounters were the most frequently reported as shown in Fig. 1, each selected by eight participants (38.1%). Two participants (9.5%) reported weekly encounters, while three participants (14.3%) reported that they had never encountered people from prison in their departments.

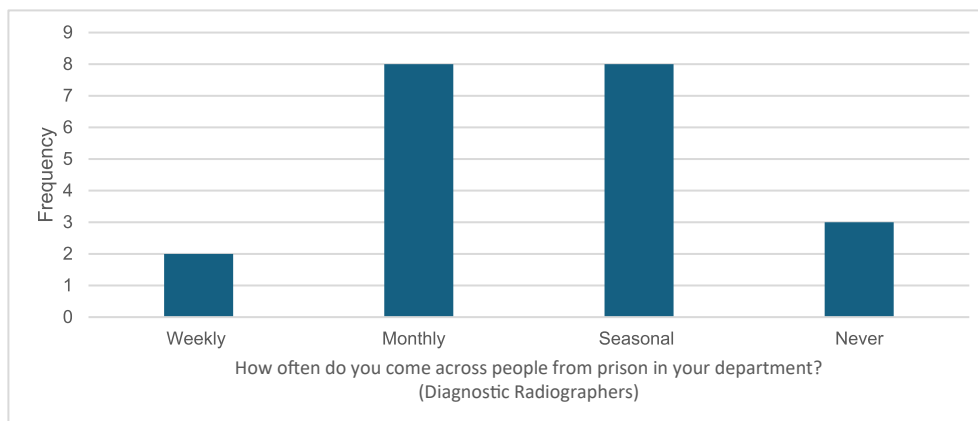
Fig. 2 shows the availability of departmental policies among practising diagnostic radiographers (n = 21). Only 6 participants (28.6%) reported that their department had policies on supporting and imaging people in prison, while 15 participants (71.4%) reported that no such policies were available.

Integrated analysis of open-ended responses across population groups

The qualitative content analysis produced four overarching categories and associated sub-categories that integrate perspectives from all three participant groups and supported by illustrative quotes.

Category 1: safety and procedural knowledge for imaging people from prison

Students wanted practical guidance on physical restraints, chaperone arrangements and safety. Students were uncertain about the procedures to follow when physical restraints and supervision by prison officers affected an imaging examination.

**Figure 1.** Frequency of encounters with people from prison.

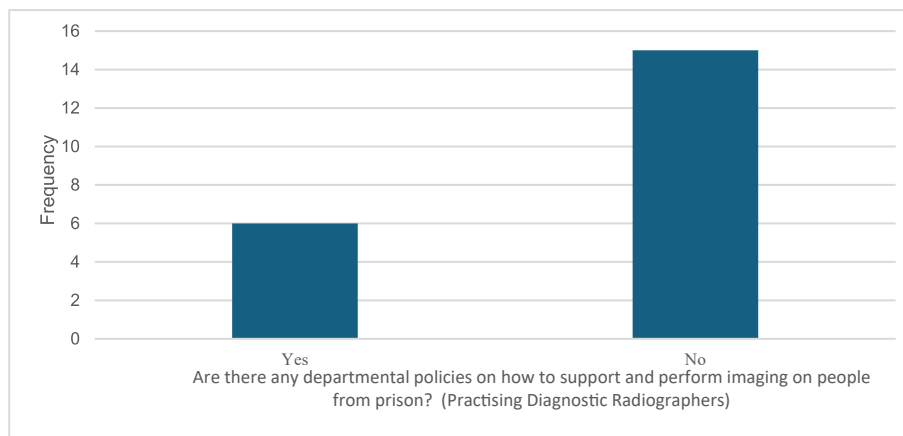


Figure 2. Availability of departmental policies on imaging people from prison.

“... Requirement for a chaperone present, imaging whilst using restraints” (S10).

Educators identified a specific gap in existing curriculum content. They wanted teaching on radiation protection when physical restraints remained in place or accompanying prison officers stayed close to the patient during an exposure. General teaching on caring for challenging or vulnerable patient groups did not address these circumstances.

“... Need more teaching on how to manage radiation protection if the person remains handcuffed during their exam” (E07).

Practising radiographers provided the most detailed accounts of the procedural knowledge required. Radiographers identified radiation and MRI safety, dose monitoring for accompanying prison officers, permission to remove physical restraints, imaging with physical restraints, security and emergency procedures, appointment confidentiality, documentation and legal considerations.

“... Also, for the fact that in some cases another prison staff have to stay inside the diagnostic room, so extra training on radiation for these people” (R10).

Category 2: communication and psychosocial care for equitable practice

Students identified a need to learn how to communicate with people from prison, particularly when asking sensitive questions and responding to perceived non-cooperation or verbal hostility. Students also identified the need to understand the mental health needs that some people from prison may experience and to adapt their communication without making assumptions based on prison status.

“.... The need to learn how to communicate with patients from prison environments” (S10).

Educators situated education on patient communication within broader teaching about health inequalities, stigma and the social circumstances associated with imprisonment. Educators considered this contextual knowledge necessary to help students recognise bias, reduce stigmatising assumptions and provide equitable care:

“... I would like to reduce stigma and bias around the population” (E02)

Practising radiographers identified communication, the management of potentially awkward interactions and appropriate responses to individual psychological and behavioural needs as relevant areas for education. Practising radiographers viewed equality and respect as intended outcomes of effective communication and psychosocial care education, rather than as separate educational topics:

“... To know how to better communicate with them without it being awkward while still providing the best possible care for them” (R09).

Category 3: confidence and preparedness for unfamiliar encounters

Students described fear, apprehension and uncertainty when considering first or unfamiliar encounters with people from prison. Some students felt unprepared to respond to perceived non-cooperation or to undertake examinations affected by physical restraints or constant supervision by prison officers.

“... May be asked to image a prisoner for the first time ever and have no idea how to go about it. May create unwarranted feelings of fear but also apprehension” (S04).

Educators also described how students might feel intimidated or uncertain when faced with unfamiliar restraint arrangements or perceived safety concerns. One educator recalled being unsure how to proceed when an accompanying prison officer refused to remove a patient's physical restraints because the educator had not encountered this situation before.

“.... I wasn't 100% how to manage at the time as I had never come across it” (E07).

Practising radiographers regarded increased confidence, reduced fear and preparation for future encounters as important educational outcomes. In this category, confidence and preparedness represented outcomes of education rather than separate areas of technical curriculum content.

".... To break the barriers and give staff more confidence in imaging this group of patients" (R14).

Category 4: integrated education and specific organisational guidance

Students differed in how they viewed the relevance of specific education. One student considered targeted training unnecessary because they perceived little difference between imaging people from prison and other patients, while others anticipated unfamiliar clinical situations and felt unprepared.

".... I don't see the point of this training as well there is nothing different" (S03).

Educators recommended teaching the topic through academic study, simulation and supervised clinical learning. Educators also proposed involving people with lived experience of imprisonment and diagnostic radiographers with relevant clinical experience. However, they recognised that curricula were already crowded and that exposure varied between placement settings.

".....Academic theory should be backed up with safe environmental experience with simulation and ideally real-world exposure with placement" (E02).

Practising radiographers also supported a combination of academic, simulation and clinical learning, supplemented by practical training and discussion with experienced colleagues. Radiographers reported variation in departmental guidance and in the relevance of the topic across workplaces. Those who described departmental policies reported that the policies mainly covered safety, physical restraints and operational procedures, with little attention to communication, support or relational care:

".... I've selected simulation but feel academic and clinical training would also be necessary" (R20).

"... The policy is around safety and protocol around performing imaging on them, not necessarily supporting or caring for them" (R09)

Discussion

This exploratory cross-sectional study identified limited education and training provision concerning the imaging of people from prison across diagnostic radiography students, educators and practising radiographers. Participants identified procedural safety, communication and psychosocial care as educational priorities, while preparedness, equitable care and organisational guidance shaped how this education could be applied.

Curriculum provision, content and pedagogy

Education and provision of training was limited across all three cohorts. This pattern is consistent with EXPOSE Phase One, in which 52 of 55 practising diagnostic radiographers reported receiving no training specifically related to caring for people from prison.¹⁸ While EXPOSE Phase One demonstrated limited training among practising radiographers, the present study extends this evidence by examining educational provision and perceived needs across students, educators and practising radiographers. The findings also reflect wider health professions education. These

findings are consistent with a recent scoping review, which identified that only 4 of 51 medical education interventions addressed Inclusion Health and people in prison.¹⁵ Evidence from physician training in the United States revealed prison health teaching has been optional, variable, and under-resourced, without a structured national curriculum.³⁶ Together these findings suggest that prison health remains marginal in mainstream health education.

Support for further provision was high across the three cohort. These findings are similar to the findings reported by Alemagno et al. where medical students wanted a more structured curriculum and opportunities to develop content understanding on the unique clinical aspects of prison health care.³⁷ This suggests that the need for prison health education is not confined to diagnostic radiography but reflects a wider issue across health professions. The open responses from this study clarified that education should address safety and procedural knowledge, communication and psychosocial care. Confidence, preparedness and equitable care represented intended educational outcomes rather than separate curriculum topics.

Preferred learning settings differed between the cohorts. Among the seven educators supporting additional content, 4 selected simulation and 3 selected academic learning. Among the 16 practising radiographers supporting further training, 10 selected clinical practice, 5 selected academic learning and 1 selected simulation. Students provided no direct evidence about preferred delivery methods. However, the open responses from educators and practising radiographers supported an integrated approach combining academic teaching, simulation and supervised clinical learning. Evidence from an undergraduate prison health course in Canada suggests that teaching developed with people who have lived experience of being in prison can improve students' understanding and reduce stigma.³⁸ Similar approaches in medical education, have combined structured preparatory teaching, supervised contact with people in prison and guided reflection to help students process challenging encounters.^{39,40} These findings support structured and experiential learning while indicating that no single delivery method should be assumed to suit every group. Collectively, the limited provision of education, strong support from each cohort and the identified learning needs suggest that education concerning people from prison may not be consistently embedded within diagnostic radiography curricula. Its proportionate integration within existing curricula would align with Principle 3 of the NHS Inclusion Health Framework, which calls for workforce development in inclusion health.¹⁴ It would also support HCPC Standards of Proficiency 2, 5 and 15.2 concerning service user rights, inclusive practice and understanding the wider determinants of health.⁴¹

Communication and psychosocial care for equitable practice

Across the three cohorts, participants identified communication skills and psychosocial awareness as necessary educational content for supporting respectful, equitable and non-stigmatising care during imaging. Students requested communication training and mental health awareness, educators emphasised stigma reduction and health inequalities, and practising radiographers identified communication and psychological

care as relevant learning needs. Equitable care therefore represents an intended outcome of this education rather than a separate curriculum topic.

Mental health awareness forms one element of psychosocial care. A systematic review on prevalence of mental disorders in prisons in the UK identified higher rates of neurotic disorders, personality disorders, alcohol and drug dependence than the

general population.⁴² These conditions may affect how individuals engage during imaging examinations. However, this evidence should not encourage diagnostic radiographers to infer behaviour from a person's mental health condition or prison status. Education should instead prepare students and radiographers to recognise individual psychosocial needs, avoid assumptions and adapt their communication appropriately.

Reagan et al. documented the use of stigmatising and dehumanising language towards people in prison within healthcare and argued for person first language and structured education to help healthcare professionals recognise and challenge prejudice.⁴³ Although Travaini et al. examined nurses working in prison rather than radiographers in acute hospitals, they similarly found that professional codes of ethics alone were insufficient to address defensive communication and prejudice.⁴⁴ Taken together with the present findings, this evidence supports explicit communication and education on stigma reduction that protects dignity without treating people from prison as a behaviourally homogeneous group.

The joint statement by the European Society of Radiology (ESR) and the European Federation of Radiographer Societies (EFRS), emphasises that clear communication can reduce patient anxiety, and support cooperation during imaging procedures.⁴⁵ Adamson et al. found that simulation-based communication training combined with expert feedback supported radiography students in developing calm, empathetic and non-judgemental communication during challenging encounters.⁴⁶ Simulation could therefore form one component for education on communication, consistent with the preference expressed by educators in this study. However, it should complement academic and supervised clinical learning rather than be presented as a shared preference across cohorts.

Integrating communication skills, mental health awareness, and reduction of stigma into radiography education could support HCPC Standards of Proficiency 2, 5, and 7 concerning ethical practice, inclusive and non-discriminatory care, recognition of psychosocial needs and effective communication.⁴¹

Preparedness and professional development

Seven out of eight educators (87.5 %) indicated that the current radiography curriculum does not adequately prepare students to support clinical encounters with people from prison. This perceived gap was reflected in students' accounts of fear, apprehension and uncertainty during first or unfamiliar encounters. Educators also described possible intimidation and uncertainty in unfamiliar restraint situations. Practising diagnostic radiographers identified increased confidence, reduced fear and preparation for future encounters as important educational outcomes. Preparedness and confidence therefore represent intended outcomes of education rather than separate curriculum topics.

A pilot study of first year diagnostic radiography students reported similar emotional responses of fear, anxiety and distraction when students were first exposed to confronting clinical situations, and found that simulation training improved their emotional preparedness, although the scenarios did not involve people from prison.⁴⁷ Evidence from a systematic review and meta-analysis of 62 experimental and quasi experimental studies involving 4570 undergraduate nursing students also found that simulation-based education reduced anxiety and increase self-confidence, although none of the included studies focused on caring for people from prison.⁴⁸

Diagnostic radiographers reported weekly, monthly and seasonal encounters with people from prison in imaging departments. These patterns may be influenced by the proximity of acute hospitals to prison settings, meaning some departments

may encounter people in prison routinely, while others may do so only occasionally. However, the findings suggest that reliance on workplace exposure alone could produce uneven preparedness. Although focused on trauma imaging, Wahid et al. similarly found that diagnostic radiographers' preparedness was shaped by work integrated learning and prior experience, while limited psychological support created additional challenges.⁴⁹ Their findings support combining clinical exposure with structured education and professional support rather than relying on experience alone. A proportionate approach could combine foundational education within preregistration programmes with structured continuing professional development (CPD) in departments where encounters occur. Support for further education was evident within each cohort, with nine of 11 students, seven of eight educators and 16 of 21 practising radiographers supporting additional provision. Wareing et al. argued that effective CPD in radiography should be structured, evidence-informed and aligned with patient, professional and service needs.⁵⁰ Their meta-ethnographic synthesis also indicated that CPD should combine formal education with workplace learning and reflection, and the impact must be demonstrated through improved patient care and professional competence.⁵⁰ Such an approach may be particularly relevant to radiographers working in departments with recurring encounters with people from prison.

Organisational guidance, curriculum constraints and context

Most practising diagnostic radiographers (71.4%, $n = 15$) reported that their departments lacked policies on supporting and imaging people from prison (as shown in Fig. 2). This finding accords with previous studies in which healthcare professionals reported unclear policies, inconsistent processes and confusion due to unclear protocols when caring for people from prison.⁵¹⁻⁵³ Diagnostic radiographers who reported having departmental policies indicated that these mainly addressed safety, physical restraints and operational procedures, with limited attention to communication, support or relational care. This finding supports Edge et al. who reported that operational policies often prioritise security and logistics over person-centred care.¹³ The absence or limited scope of departmental policies may hinder consistent practice and the local application of the NHS Inclusion Health Framework.¹⁴ Departments that regularly image people from prison should therefore consider developing or reviewing local guidance that addresses both operational safety and person-centred care. Such guidance could clarify constant supervision or presence of prison officers, permission to remove physical restraints, radiation and MRI safety, confidentiality, documentation, emergency procedures and escalation processes. It should also address communication, privacy and dignity. Relevant CPD could help radiographers apply this guidance consistently and manage situations not covered during preregistration education.

One student questioned the need for targeted education because they perceived no difference between imaging people from prison and other patients. This response could reflect a commitment to equivalence of care, but it may also overlook the specific procedural and security circumstances identified by other participants. As this was one dissenting response, it cannot support a broader claim that students were sceptical about training or that such views contributed to inconsistent care. It nevertheless shows that participants did not universally recognise the relevance of specific education.

Educators also described limited curriculum capacity and variation in students' exposure across clinical placements. Similar concerns about crowded curricula have been reported in medical education,⁵⁴ although this evidence does not directly establish the

extent of the problem within diagnostic radiography. These constraints support proportionate integration of relevant content within existing teaching rather than the creation of an extensive standalone module. Academic learning and simulation could provide consistent foundational preparation, while supervised clinical learning could reflect differences in local exposure.

Limitations

The main limitation of this study relates to the modest sample of participants ($n = 40$), despite the survey remaining open for five months and being distributed through several recruitment channels. This may limit the generalisability of the quantitative findings and the transferability of the qualitative findings, particularly as no responses were received from Wales. The study also used self-selection sampling method, which may have attracted participants with a particular interest or experience in inclusion health or prison care, introducing potential response bias. The questionnaire was not formally piloted before data collection. Although expert review supported its clarity, relevance and content validity, the absence of pilot testing may have limited the opportunity to identify ambiguities before survey distribution. The retrospective reports of diagnostic radiographers about previous education may have been affected by recall bias, particularly among those with longer professional experience, potentially resulting in under-reporting of previous training. Self-reported data may also be affected by social desirability bias. Finally, the qualitative findings were derived from open response survey questions. The study could not probe participants' answers, clarify meanings or explore individual experiences in depth.

Conclusion

This exploratory study identified limited education and training provision concerning the support and imaging of people from prison across all three population groups. Participants identified safety, procedural knowledge, communication and psychosocial care as educational priorities, with confidence, preparedness and equitable care as intended outcomes. Learning preferences varied, while most practising radiographers reported that their departments lacked relevant policies. These findings support the proportionate integration of relevant content on people from prison within radiography education, CPD and departmental guidance. Future research should develop and evaluate educational approaches for this area of practice.

Ethics approval and consent to participate

The study received full ethics approval from Health, Education and Life Sciences Faculty Academic Ethics Committee at Birmingham City University (Ref: Brooke/#13969/sub5/R(A)/2025/Jan/HELS FAEC). The study was carried out in accordance with the ethical principles of the 1964 Declaration of Helsinki and later amendments.⁵⁵ Participants received an information sheet at the start of the questionnaire explaining the study's aims, their role and their rights with emphasis on voluntary participation and the confidentiality of their responses. Informed consent was obtained electronically before participants accessed the survey.

Availability of data

De-identified data are available from the corresponding author upon reasonable request.

Author contributions

CVE: Conceptualisation, Methodology, Investigation, Formal Analysis, Writing – Original Draft; Writing – Reviewing and Editing, Visualisation; **OL:** Conceptualisation, Formal Analysis, Supervision, Writing – Reviewing and Editing; **JB:** Conceptualisation, Formal Analysis, Supervision, Writing – Reviewing and Editing.

Generative AI use

The authors confirm that no Generative AI tools were used at any stage in the preparation of this manuscript.

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Conflict of interest statement

The authors declare no competing interests.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.radi.2026.103603>.

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