Preliminary clinical evaluation: Where are we? An international scoping review

Radiography 30 (2024) 1474–1482

Contents lists available at ScienceDirect

Radiography

journal homepage: www.elsevier.com/locate/radi

Systematic Review

Preliminary clinical evaluation: Where are we? An international scoping review

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ARTICLE INFO

Article history:
Received 14 June 2024
Received in revised form
26 July 2024
Accepted 7 August 2024
Available online 27 August 2024

Keywords:
Preliminary clinical evaluation
Image interpretation
Radiography
International

ABSTRACT

Background: The College of Radiographers' vision was that diagnostic radiographers in the UK would be writing preliminary clinical evaluations (PCE) on images. Their 2013 policy supporting the use of PCE has not been updated in a decade and it might be suggested PCE practices in the UK have not really moved on, though elsewhere it appears to have gained traction. The aim of this scoping review was to establish the current global status of the use of PCE.

Method: The Arksey and O'Malley scoping review framework and PRISMA-ScR guidelines were used to develop a protocol to identify studies between January 2013 to January 2024 using six databases. Collated literature was analysed using content analysis to identify themes.

Results: 52 relevant studies were identified for inclusion. Studies focused predominantly on evaluating accuracy, education, perceptions, and new initiatives. Themes identified a developing role in the use of PCE internationally, perhaps more than in the UK, and in a range of modalities and clinical settings though projectional radiography remains the mainstay. Barriers and drivers to the use of PCE were identified in addition to some quality mechanisms used to support PCE implementation, though impact of implementation was not well explored.

Conclusion: Considering PCE has been an aspiration for more than a decade, it remains relatively infrequently researched. There is growing scope internationally, particularly in Australia, yet there is no real evaluation of the impact and role that PCE may have.

Implications for practice: Until further research into the potential impact of PCE and barriers to its implementation, it is likely practices may not evolve with the risk AI technologies may supersede necessity for the practice.

Introduction

Radiographer abnormality detections systems (RADS) have been employed in the UK for over 40 years to provide a radiographer opinion to clinicians prior to a formal report being available. Dr Kenneth Swinburne, a UK radiologist, proposed in The Lancet in 1971[1] that x-ray services could be improved by using the non-radiologist to distinguish between normal and abnormal findings, a proposal brought about by a shortage of radiologists and that radiographers were not fulfilling their potential. 52 years later, those same issues still seem contemporary and applicable. By the 1980's the 'red dot' became the first method by which UK radiographers transitioned from ad hoc conversations with referring clinicians to a more formalised way of 'flagging' abnormalities.[2,3] A red dot sticker was physically applied to the radiographic film (prior to digital technology) to identify when the radiographer had detected an abnormality.

In the 1990s a major and defining step for UK radiographer role development came in the form of radiographer reporting. The role of radiographers in providing the final clinical report is now substantial and cannot be understated.[3] From being able to potentially offer 24/7 hot reporting services to ED, to reporting a wide range of modalities and referral sources,[4] in many ways Swinburne's[1] original proposal may have been fulfilled, in the UK at least.

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https://doi.org/10.1016/j.radi.2024.08.008

However, there is a significant difference between simply identifying and flagging an abnormality with a red dot and authoring a formal clinical report, and the red dot system has several key limitations; it can be ambiguous, non-specific, and open to misunderstanding.[3,5,6] In response, during the early 2000s the Society and College of Radiographers (SCoR) proposed that radiographers should be able to write a short 'comment' or description of image findings, in what became called the preliminary clinical (or sometimes image) evaluation, the PCE (or PIE).[6,7] The vision of the SCoR was that the PCE offered radiographers the chance to utilise their skills and knowledge more fully in image interpretation while providing a more fit for purpose RADS for referring clinicians that addressed the ambiguity of the red dot system. The SCoR articulated a vision that all radiographers would be able to write comments by 2010,[6] and in 2013 they produced practical guidance outlining the requirements and differences of the PCE and clinical reporting.[7] They also clearly specify that radiographers must only work within their scope of practice to which there are educated and competent to perform, now usually a requisite of pre-registration education.[8] Limits to this, therefore, might only be considered those set by legal boundaries, and the opportunity to undertake and develop in this area.

PCE research in the UK at this time focused on the current practice, how it was being integrated into higher education programmes[9] and explored potential barriers to its implementation.[10] Image interpretation education is now heavily integrated into UK radiography education programmes, yet in clinical practice the vision of the SCoR appears to be unfilled as PCE systems are less commonly utilised than the traditional 'red dot' despite its limitations.[10] Conversely whilst many other countries outside of the UK have not implemented the role of reporting radiographers, due to a range of barriers, the clinical implementation of PCE appears to have taken on much greater prominence compared to the UK.[11] In Australia, for example, communicating normal and abnormal findings is also now seen as core to a radiographer's role.[12]

Whilst systematic review studies address the Australian context for radiographer image interpretation[11] and accuracy of PCE,[13] to date there appears to be no holistic global review of the literature specifically exploring PCE and radiographer commenting. Ten years since the publication of the original SCoR policy on PCE,[7] the UK's professional body now looks to publish updated and more detailed guidance on PCE. However, one might potentially question whether a universal PCE system is still a realistic aim, especially with the exponential interest and use of AI for image interpretation and within the context of an established radiographer reporting service (in the UK at least). Before this question can be considered, the aim of this scoping review is to consider the international research surrounding the use of PCE to explore the current evidence base and examine the breadth of clinical practice with respect to PCE and the following specific objectives:

- international perspectives
- justification for use
- scope, application, and breadth
- drivers and barriers to implementation
- educational requirements
- quality mechanisms

Methods

As the focus and rationale of this study was to consider broad context around the use of PCE in practice, rather than focusing on a specific aspect, a scoping review methodology was utilised. Scoping reviews can provide an overview of a subject area by synthesising the evidence where the topic area is broad.[14]

Protocol

The Arksey and O'Malley[15] scoping review framework and PRISMA-ScR[16] guidelines were used to develop a study protocol.[17]

Sources of information

Relevant studies published in English between January 2013 (when the original SCoR policy was published) and January 2024 were identified using six online databases; namely Medline, CINAHL, Science Direct, PubMed, Web of Science, Scopus, and Google Scholar as an additional search platform. Key words and synonyms formed from the studies eligibility criteria to reflect international terminology for radiographer PCE to include preliminary image/clinical evaluation, commenting and abnormality detection. Boolean operators and wildcards/truncations were utilised to increase the breadth of the database searches.[18] The database searches were completed in January 2024. Search terms are outlined in Table 1.

Eligibility criteria

Inclusion and exclusion criteria were defined around the eligibility criteria for the study created using the PIO framework, as outlined in the study protocol[17] (see Table 2). Since the focus of the study was on the PCE specifically (and not red dot, reporting or other form of radiographer abnormality detection systems), included studies were required to include a written element to the radiographer interpretation, though these terms were still employed at search stage to ensure no relevant studies were excluded. The studied population being diagnostic radiographers (or international derivatives) working in any imaging modality and referral source, and outcomes were broad but related to the studies aims and objectives outlined above. Exclusion criteria included studies focusing on the role of AI, other systematic reviews, and opinion pieces.

Study selection & extraction

Screening was performed using the Covidence scoping review tool (Covidence, Melbourne Australia) in two stages, first by title and abstract, followed by a second full text review. The initial title and abstract review was performed independently and blinded by two authors for each article with discrepancies resolved by full research team consensus. Each independent full text review was also undertaken independently and blinded by two authors from across the research team, again discrepancies were resolved by consensus between all authors. Included full text articles were then screened for additional relevant citations.

A data extraction template based upon the Joanna Briggs Institute's[19] critical appraisal tools was developed to extract data relevant to the study objectives. Data extraction and analysis was divided equally amongst the authors (all experienced academics/

Table 1
Search terms employed.

Radiographer	Preliminary Clinical Evaluation/PCE
Medical Imaging Technician/ Technologist	Preliminary Image Evaluation/PIE
Sonographer/ultrasonographer	Red dot/red flag
Medical Radiation Technologist/Technician	Radiographer Abnormality detection/RADS
	Image Interpretation/Evaluation/Critique

Table 2
Inclusion & exclusion criteria.

	Inclusion	Exclusion
Publication date	Published January 2013 to January 2024	Published prior to January 2013
Publication language	English	Not published in English
Population	diagnostic radiographer, medical imaging technologist, radiologic technologist, medical radiation technologist	Non-diagnostic radiographer to include therapeutic radiographers
	General radiography + other modalities (CT, US, MRI, NM)	Radiation therapy
	Any referral source or pathology	n/a
Intervention	Abnormal radiographer findings communicated in a written form ● Preliminary Clinical Evaluation ● Commenting ● Red dot + written comment ● Rad flag + written comment ● Abnormality detection ● Image interpretation ● Image evaluation (not image quality) ● Image critique (not image quality)	Red dot only, formal reporting

clinicians) and cross-moderation was undertaken to ensure consistency in data extraction.[18] Descriptive analysis was undertaken to provide evaluation of study methodologies and geographical location, content analysis was used to identify themes related to the research objectives.[20,21]

Results

Study selection

The search results identified 1923 studies, which reduced to 1157 for screening after duplicates were removed. A detailed PRISMA flow diagram is presented in Fig. 1. Title and abstract screening reduced the number of studies to 117 for full text review. Following full text review, 52 studies were included and are summarised in the supplementary information.

Demographics

Of the 52 studies included in the study, 22 (42%) were published within the last 5 years. During the last five years, the most productive years were 2019 and 2021 (8 articles published each year) (Fig. 2). The studies were undertaken in Europe, Australia, Asia, Africa, and North America, across numerous countries (Fig. 3). The UK leads the way with 26 publications, followed by Australia with 16 publications. The study populations in 45 of the 52 studies consisted of radiographers. Other study populations involved doctors (n = 5, 10%), Sonographers (n = 4, 8%), and other health professions (n = 5, 10%). There were multiple studies that involved more than one profession in their population. 37 of the 52 articles (71%) were based in general radiography, 4 (8%) were based in CT, 4 (8%) were based in mammography, 5 (10%) were based in ultrasound, 2 (4%) were based in MRI and 1 (2%) was based in nuclear medicine. Some studies covered more than one modality. Regarding the terminology used to describe the context of all studies, 41 described the provision of a written description or comment, others used a classification/scoring system. Most studies were based around general radiography interpretation and descriptions (n = 28, 54%), focussing on trauma musculoskeletal examinations though interpreting NG tube position was specifically a focus in 4 studies.[22–24]

Study focus and methodology

In terms of the focus of research (Table 3), a considerable proportion of the 52 included studies focused on either assessment of accuracy of those undertaking PCE (29%, n = 15) or evaluating the role of an educational intervention (31%, n = 16). Of these studies, however, there was also overlap between several studies which considered accuracy pre- and post-educational intervention. Eight studies (15%) considered the application of PCE in new areas or scopes of practice but only 2 (4%)[44,51] directly looked at the actual direct impact or effect of PCE.

Retrospective audits, mostly related to testing accuracy, were the most used methodology (Table 3) in 16 (31%) studies, followed by prospective or longitudinal studies (19%, n = 10), and service evaluations 13% (n = 7).

A range of common findings and themes were described (Table 4) in the included papers.

Adequate accuracy and education

The importance of being able to assess accuracy of PCE was highlighted, though research concluded that this was deemed accurate for the purposes of these systems, even though this was often lower than the minimum standards for radiographer reporting. It was recognised that PCE offered a more specific interpretation for the clinician though feedback mechanisms to identify common errors is needed. Closely related to this is a need for adequate education and support in introducing and managing PCE systems and that this was essential in helping radiographers feeling prepared to participate.

Positive impact

Though the focus of some papers investigated new areas of practice (n = 8, 15%) directly measuring impact was much less commonly investigated. A lot of discussion in papers looked at the possible benefit of introducing PCE and how it may have the potential to impact on the care pathway and radiographers' practice.

Barriers

Across the studies a diverse array of barriers to PCE were identified, summarised in Table 5. The most frequently coded themes highlight several barriers to participation in PCE within the clinical setting by the radiography workforce. 27 studies (52%) reported either partial or limited participation by radiographers to include non-participation by agency and newly qualified staff due to their lack of familiarity with the PCE system, or by incorrectly excluding specific referrers[25]; and reduced participation during periods of high service or in response to staff shortages.[25] 12 studies (23%) reported a degree of apathy towards PCE by the radiography profession with some staff unwilling to participate due to perceived encroachment on the radiologist role[53] or

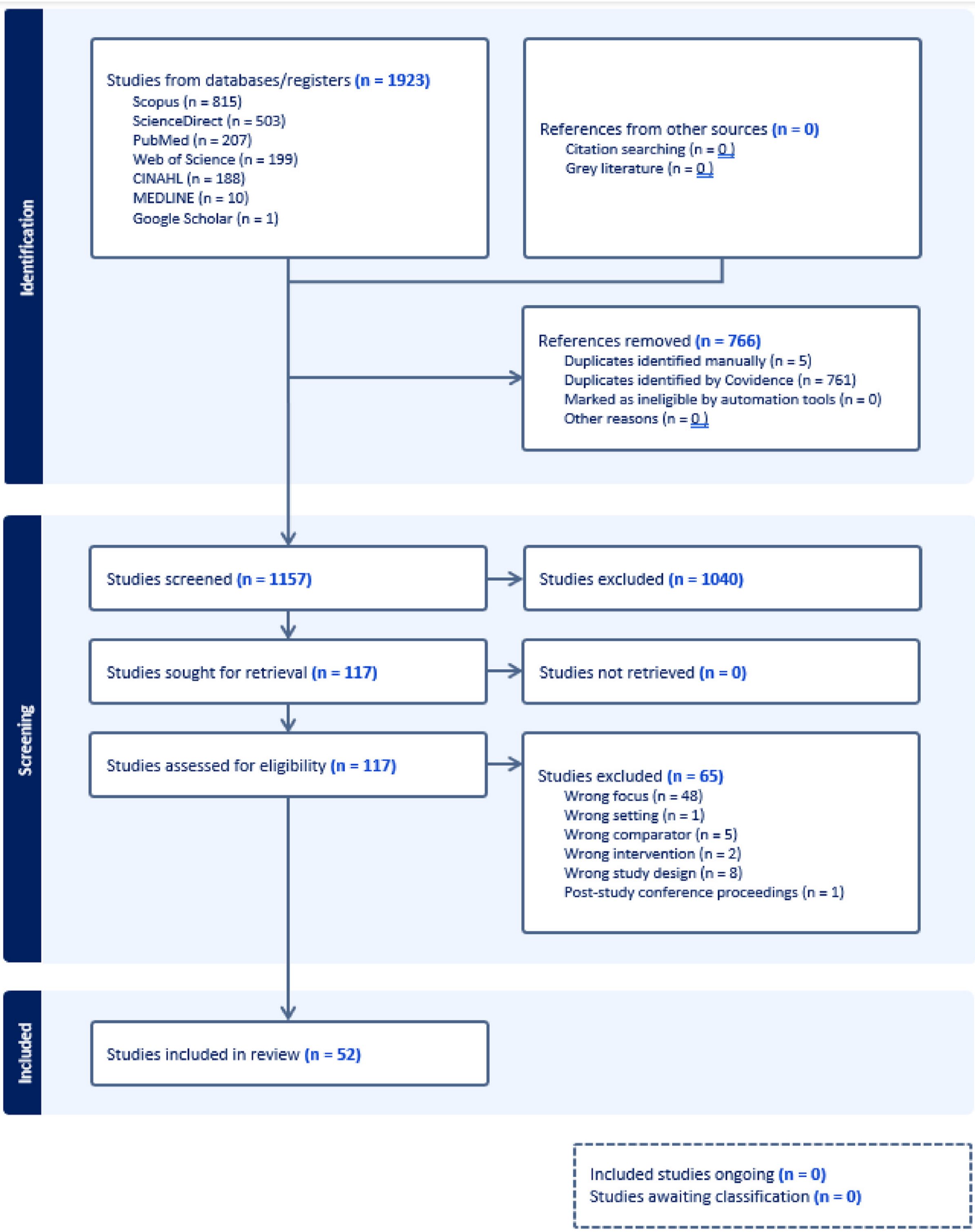

Figure 1. PRISMA diagram.

abstention due to low confidence through lack of engagement with training.[25] This reflects the most identified barrier to PCE being concerns around radiographers' capability (n = 22, 42%) to perform PCE. This identified a lack, and therefore suggested need, for more formalised PCE education and training (n = 11, 21%) to help increase capability[25]; but also, more context specific local concerns around quality (n = 11, 21%) spanning issues such as a lack of a base line standard for accuracy,[26] suboptimal viewing conditions and workstations,[36] and cherry picking or avoidance of more challenging cases to include axial and paediatrics.[6] It is interesting to note that 1 (2%) UK-based study[60] suggested that the role of PCE had been made redundant for emergency department referrals since the implementation of a hot reporting system.

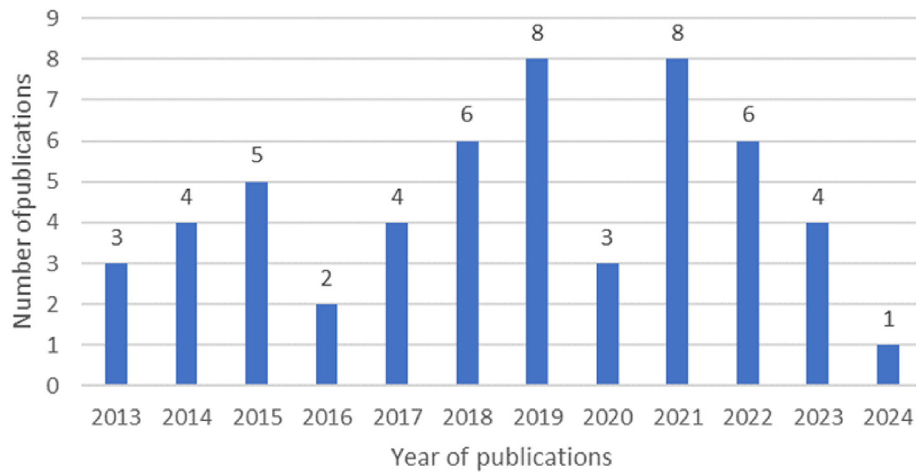

Figure 2. Number of publications by year.

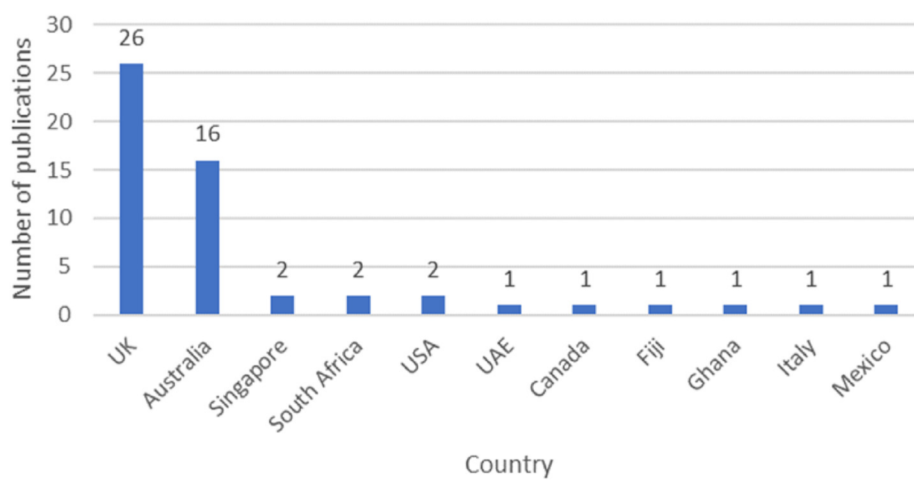

Figure 3. Number of publications by country.

Table 3
Focus and methodology of included studies.

Study Focus	Number of Studies (%)	Methodology Type	Number of Studies (%)
Education	16 (31)	Retrospective audit	16 (31)
Accuracy	15 (29)	Prospective/longitudinal	10 (19)
Scope of practice (i.e. new area where PCE undertaken)	8 (15)	Service evaluation (not audit)	7 (13)
Perceptions	4 (8)	Cross-sectional survey	5 (10)
Structure of PCE	3 (6)	Pre-test, post-test	4 (8)
Development of Test Tool (to assess competence)	3 (6)	Qualitative	4 (8)
Impact/Effect of PCE implementation	2 (4)	Proposal for new intervention	3 (6)
Case series/study	1 (2)	Randomised control trial	2 (4)
		Case series/report	1 (2)

Table 4
Common finding and themes of studies.

Adequate Accuracy	Positive Impact on care pathway/supporting clinicians	Need for appropriate education and knowledge
Lower than expected for reporting	Identification of new areas of practice	Education shown to increase confidence but not always accuracy
Reduced specificity compared to sensitivity	Positive impact on radiographers' practice	Need for training in structure and writing
Need to identify common errors	Variations in how used and governed in practice	Lack of preparedness to undertake PCE, less than red dot
Scoring systems needed to help assess accuracy	Still not widely utilised compared to red dot/ reporting	Need to evaluate impact of education
More effective/accurate than red dot		Need for support from radiologists
Use of free text helps clarify		Need opportunity for feedback

Table 5
Identified barriers to PCE.

Barries to PCE	Subtheme	Frequency
Governance[8]	Need greater recognition of PCE as scope of a radiographer	3
	Lack of standardisation, consistency, or guidance on PCE implementation	3
	Concerns about the legal implications and liability	2
Implementation[13]	Lack of radiology support	6
	Limited knowledge of the PCE process/system	3
	Technology challenges (PACS not integrated, technology not developed to support PCE)	3
	PCE redundant due to hot reporting	1
Participation[20]	Partial/limited participation by radiography workforce	12
	Apathy towards PCE by radiography profession	8
Capability[22]	Radiographers lack/need more formal PCE education or training	11
	Concerns around quality of PCE	11

Quality mechanisms in PCE implementation

A limited number of studies provide some insight into various quality mechanisms employed within the clinical setting. The emergent subthemes are summarised in Table 6. Six studies (12%) explored the efficacy of escalation resulting from PCE evidencing prioritised reporting of abnormal and significant findings. The quality and structure of the actual PCE comment was examined by 4 (8%) studies highlighting the benefit or radiographer feedback on comment quality in addition to accuracy[33] and a role for greater collaboration between stakeholders.[59]

Discussion

The aim of this scoping review was to consider the body of evidence pertaining to the role of PCE since the previous UK guidance was published in 2013[7] in relation to drivers and barriers, global scope and development, and impact on practice.

Scope of practice

Our global review highlights a broader scope emerging to the practice of PCE compared to the SCoR guidelines from 2013[7] with evidence of expansion into other areas such as CT and MRI. The commonest scope of practice consists of appendicular general radiography examinations, which covers a wide range of pathologies, but this is not entirely surprising considering the frequency of these examinations in the ED. Only one study was focussed on assessing radiographers PCE performance for CXRs[27] though others looked at the role in assessing NG tube positioning on the CXR.[22–24] It is interesting to note that when PCE is considered in other modalities there is a more-focussed scope of practice with less freedom to express interpretations, such as, CT angiography examinations only,[28] CT colonography with specific pathology only,[29–31] a rating system for adrenal nodules,[32] and a categorical assessment scheme used in CT chest scans assessing for COVID-1.[33] The studies by Camilleri et al.[32] and Vicini et al.[33] did not require the radiographers to provide a written description but used a predefined grading system. Only one of the four Mammography-based papers required a written comment.[34] The study by Culpan[34] is from the UK, which reflects the progressive and advanced acceptance of radiographers' writing their opinions in the UK. The remaining three studies utilised the Breast Imaging Reporting and Data System (BI-RADS) system, based in Australia[35,36] and Mexico.[37] The five ultrasound studies were all international studies, and this reflects the lack of progression of sonographers reporting scans outside of the UK. In addition to this, only two studies utilised written “sonographer findings”[38] and “preliminary findings”.[39] One of the studies was focussed on ultrasound liver scans and used the Liver Imaging Reporting and Data System (LI-RADS) classification.[40] In MRI, one of the two studies utilised a red dot style system to detect the presence/absence of pathology using a confidence Likert scale when interpreting cardiac scans for left ventricular thrombus in routine examinations.[41] The study by Lockwood & Dolbear[40] evaluating performance of radiographers interpreting MRI scans was limited to brain, spine, and knee, undertaken in an academic setting following completion of a postgraduate module. The only nuclear medicine study required participants to provide a commentary of images in an academic setting at the end of a postgraduate module covering bone, lung, renal and thyroid scans,[43] but there was no specific mention of PCE anywhere in the study. There is clear evidence of expansion of PCE into other imaging modalities outside of general radiography though whether it is having impact may not be so clear.

Impact of PCE

This review has demonstrated that a high proportion of PCE research is predominantly focused on image interpretation accuracy and education with only two included studies appearing to formally evaluate the impact of PCE on clinical services. This highlights a critical need for greater research exploring the effect PCE might have.

Stevens and Thompson[44] considered how the use of PCE can help support detection of abnormalities in the hand and wrist by emergency nurse practitioners demonstrating that radiographer PCE can improve abnormality localisation accuracy and confidence, impacting positively on the management of patients and helping to

Table 6
Identified barriers to PCE.

Quality mechanisms	Subtheme	Frequency
Escalation and formal reporting[6]	Radiographer escalation leads to priority radiology reporting	3
	Radiologist reviews radiographer abnormalities	1
	Advanced practitioner reviews abnormal PCE	2
Quality of commenting[4]	Feedback on radiographer commenting needed	1
	Need for or use of scoring mechanism that considers and includes clinical impact	2
	Need for greater collaboration between stakeholders	1

reduce false negative diagnoses. Bradbury et al.[30] investigated the potential impact that radiographers undertaking PCE during CT colonography (CTC). They identified radiographer PCE helped to reduce the time from scan to follow-up investigation by a median of 34 days thus helping to meet targets for two-week wait diagnostic services. Hilkewich,[50] also considered potential, rather than actual, impact on the turnaround of reports in CT angiography, however, identified further consideration of accuracy would be needed before this could be considered being introduced into practice.

Whilst there is extensive evidence to demonstrate that with appropriate education, radiographers are competent to write accurate PCEs, the implementation of PCE may have been stalled by the limited research evidence demonstrating positive impact.[44,48] Several studies[45–47] identified that the PCE is still not yet fully integrated into practice despite having been proposed as standard practice in the UK over a decade ago[7] and which may help explain why impact is not commonly evidenced.

Justification and drivers

Despite limited evidence of impact, one of the key drivers identified for the implementation of PCE, remains the lack of availability of radiologists to provide a timely report.[1,34–38,42,49–55] The lack of radiologists was in rural areas, out of hours settings and in developing countries[37–39,50,51,54–56] though for the PCE to be effective it needs to be accurate and timely.[38,53] To improve accuracy, education and training is required.[23,24,27,30,39,41,43,55,57–59] The implementation of PCE has the potential to improve cost effectiveness, through the reduction of errors leading to an improved patient pathway and potential for reduction of strain on departments.[22–25,27,28,37–39,42,44,48,53,58–62] though the evidence-base does not address whether this is being achieved where PCE is in use.

Barriers to PCE implementation and participation

Similarly to scope, this global snapshot identified that the barriers to the implementation and participation in PCE by radiographers is heterogenous, reflecting the diverse array of challenges faced across different regions and healthcare systems but also provide some insight into more universal trends.

Governance issues to include limited recognition of PCE as part of the scope of radiographer practice and concerns regarding legal implications and liability were raised in multiple studies in settings outside of the UK setting. In keeping with prior published studies,[9,11] challenges in PCE implementation include limited support from radiology that also are confounded by a lack of understanding about PCE, low confidence and a need for greater training. Successful implementation is compounded by partial or limited participation amongst the radiography work force. High service demands and staff shortages were identified as a global challenge that exacerbates existing barriers. With an increasingly global radiographer workforce shortage, established PCE programmes may be at risk of reduced participation.

UK based studies suggest that despite the integration of image interpretation education into pre-registration radiography programmes, the uptake of PCE systems is not universal and has not replaced the traditional ‘red dot.’ The potential redundancy of PCE in some UK settings due to hot reporting also poses an emerging barrier to PCE implementation.[60] In Australia, the findings by Klobasa et al.[53] reflect an increasing integration of PCE into the radiographer's role with a focus on communicating and escalating abnormal findings. However, barriers such as a lack of radiology support and an absence of radiographer reporting role models persist.[11] In non-Western nations, the heterogeneity in the perception of the radiographer's scope and role was particularly evident. A lack of formalised education and training, combined with concerns regarding quality and accuracy were significant barriers. A barrier around a lack of confidence and willingness to participate also appears to persist.[9]

Role of AI and technology

As per the research protocol the aim of this review was to evaluate the role of the PCE undertaken by radiographers and no other systems of abnormality detection. When undertaking the literature search, however, the authors were aware that there are large volumes of literature based exploring the role of AI in flagging abnormalities across a range of clinical setting and modalities in comparison to those that were the focus of this study. Whilst it was not one of the intended aims to consider the role of AI in PCE directly, the authors recognised that AI may well potentially have a role in abnormality detection in the future.[63] Within the limited identified studies in this review, and the fact there has not been any updated professional guidance, certainly in the UK, in the last decade it needs to be recognised that AI may have the potential to support or even replace PCE and is an area for further consideration, with the threat that implementation will negate the need for the radiographer PCE.[64–66] It was also recognised that there was a dearth of evidence which considered whether the radiology technology systems, such as PACS, might be a barrier to supporting the implementation of PCE systems by not enabling comments to be attached or visible on images when reviewed by clinicians.

Limitations

During screening and analysis of the literature there was ambiguity in terminology used throughout the studies. As discussed, there is variation in the use of PCE/PIE, however some studies used the term image interpretation with some ambiguity as to what level or form this may take. In particular a few studies looking at perceptions of new roles for radiographers in image interpretation in certain countries,[49,56] or in mammography,[35,36] were not clear whether this might be in a preliminary form of interpretation (PCE or red dot) or formal clinical reporting (whether as a primary or second reader). Whilst these studies have been included it is recognised this ambiguity may affect conclusions.

Additionally, several studies utilised scoring systems, such and BI-RADS in mammography,[35,36] as a form of preliminary clinical evaluation whereby the radiographer used the checklist to produce an interpretation rather than a free-text written ‘comment’ as per the UK definition of a PCE.[7] The authors decided to include these in the results since radiographers were providing insight into the appearances of demonstrated pathology rather than just a ‘red dot,’ but it is recognised these schemes might not strictly be considered PCE, highlighting again the misunderstanding of what is required for a PCE.

Conclusion

It is clear from the evidence presented that there is no unified global understanding or consensus as to what the role of radiographer PCE is. Much of the evidence identified explores the education needs of practitioners to attain a standard to be able to perform PCEs. From a UK perspective, this could in part explain why PCE has not replaced red dot as envisioned by the SCoR, yet a significant barrier still appears to be the workforce itself. Red dot was a method of flagging and not monitored or expected to achieve a predetermined accuracy whereas PCE has moved towards attaining a level of accuracy to ensure a meaningful contribution to the patient pathway. This is notable in countries where there is a paucity of radiologists and radiographer PCE is seen as a potential solution to the problem.

The main scope of radiographer PCE remains around general radiography in a trauma setting and focused on the appendicular skeleton. PCE in some instances are checklist driven which, as has been identified, may not be considered as true comment and which again raises the question as to what is the understanding of a PCE? The use of these checklists in the main are used in imaging modalities other than general X-ray imaging. The purpose of these is to ensure a positive impact to improve the service though again as has been identified this impact is usually speculative and not evidenced.

It is fascinating that other professions are taking a keen interest in the PCE and perceive them as being of value, which raises the questions as to why the radiography profession is not fully embracing PCE. Is it apathy, a lack of confidence in our ability or fear of liability, a lack of opportunity due to departmental structures or technological limitations, the increasing presence of radiologist and reporting radiographer hot reporting, a lack of more specific professional guidance, or is it something else? Why is there limited implementation of PCE and what is the impact of PCE on clinical services are two critical areas that future research should explore.

With the rapid development and integration of AI into abnormality detection systems, and the lack of consensus and impact assessment of the role of PCE, there is an opportunity to revisit the role of the PCE and how it can be integrated with AI to improve service. Without this we risk that it may be a case of “use it or lose it.”'

Declaration of Generative AI and AI-assisted technologies in the writing process

All authors can confirm that no generative AI or AI-assisted technology was use in the writing process.

Conflict of interest statement

All authors contributing to the article being submitted for review can confirm that they have no personal, financial, or institutional conflicts of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.radi.2024.08.008.

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