

Patient centred care in diagnostic radiography (Part 2): a qualitative study of the perceptions of service users and service deliverers

Introduction

Paper 1 in this series discussed the importance of patient centred care (PCC) as an essential tenet of high quality healthcare^{1,2,3,4}. Within Radiography in the UK, elements of PCC can be seen embedded within professional body publications and guidance^{5,6} but there is limited research exploring service user experiences of care in diagnostic radiography^{7,8}. In contrast, studies undertaken in Australia, New Zealand and South Africa have considered patient care, and made some recommendations for improvement, but these have been very specific to particular imaging modalities or patient groups.^{9,10,11} This study aimed to address the gap by determining compatibility in perceptions of PCC between those using (service users) and those responsible for (radiography managers), and delivering (clinical radiographers), diagnostic radiography services as a first step towards developing tangible, observable indicators of PCC that meet service user expectations.

In Stage 1 of this study¹² data were collected via a large-scale, web-based, attitudinal survey of radiographers and service managers (service deliverers) and service users. The survey found that there were significant differences in the perceptions of service users and service deliverers about the standard of care expected and experienced during diagnostic imaging examinations. There were also differences between the priority service users and service deliverers placed on aspects of care with service user responses valuing comfort, human interaction and environmental factors while service deliverer responses focussed on efficiency and technical skills. Data collected in Stage 1 were used to inform the design of Stage 2, a series of focus groups and telephone interviews to explore perceptions of PCC in greater depth. This paper, the 2nd in the series, reports the findings of these interviews, providing insight into perceptions of PCC in diagnostic radiography. It presents audit tools for observable aspects of PCC based on participant responses from both study stages that may be adopted in clinical practice allowing the level of individual and organisational engagement with PCC to be determined.

Method

This multi-method, 2-stage research study was funded by the UK College of Radiographers Industry Partnership scheme (CoRIPS). Ethical approval for Stage 2 of the project was granted by the University of Derby College of Health & Social Care Ethics Committee (08/03/2019).

Stage 1 of the study was a large-scale, web-based, attitudinal survey organised into three key areas based on a synthesis of PCC priorities from four key publications defining patient centred care:^{1,2,3,4} use of technology; comfort and emotional support; and control of environment. The survey was delivered via Qualtrics. Recruitment of participants was via a poster at the UKRCO conference in July 2018 (utilizing a QRS code); social media (Twitter, LinkedIn); email networks and word of mouth. The survey was open for 8 weeks, from 1st July – 30th August 2018. Demographic data were collected in the survey to confirm representativeness of sample within each participant group. The clinical experience (years qualified) of clinical radiographers and radiography managers, as well as current geographic location, were also collected. This data assured that a broad range of participants were included in the survey, but as the anonymity of participants could be compromised, this has not been shared within this publication.

The results of the surveys were used to develop two situational vignettes designed to enable deeper discussion and exploration of PCC within the focus groups and telephone interviews. Vignette 1 considered the experience of a patient attending for a magnetic resonance imaging (MRI) scan of the lumbar spine after suffering an injury at work that had resulted in long-term low back pain. As well as following the patient through the imaging event from department arrival to discharge, the vignette also reported the patient being in pain, unable to sit or lie down flat on their back for more than a few minutes at a time and feeling very cold. These concerns were drawn directly from free text survey comments provided by service users in Stage 1. Vignette 2 considered the experience of a carer bringing an elderly relative to the imaging department for a chest radiograph. Once again, the vignette followed the patient journey and in this scenario, the patient and carer were informed that the department was very busy upon their arrival, raising concerns about parking and patient ability to tolerate waiting, once more reflecting service user free text responses in Stage 1. The interviewer read out the stages of the vignette word for word, each stage representing a phase in the patient journey. At the end of each stage, the interviewer asked a series of open questions allowing participants to share their perceptions and reflect on their personal experiences. The situational vignettes were piloted with one service user and one clinical radiographer prior to use to ensure they elicited appropriate discussion and insight and to gauge feedback on the vignette imaging examples, organisation and question prompts.

Stage 2 participants were recruited from those completing the Stage 1 survey and who had consented to be approached to participate in a follow-up focus group or individual telephone interview. Respondent contact details were voluntarily provided as part of the Stage 1 survey. Separate focus groups were planned for radiography service users, radiography managers and clinical radiographers to mitigate any issues of power and authority. The use of mixed method recruitment to the focus groups did lead to a shortage of participants who were able to attend a focus group.¹³ To mitigate this, participants who could not physically attend a focus group were offered a telephone interview to enable them to still participate in stage 2. The focus groups took approximately one hour and were held at varying geographical locations to minimise travel journey times for participants. The telephone interviews took approximately 30 minutes and were undertaken at a date and time convenient to the individual participant and researcher.

A participant information sheet and consent form were distributed with the focus group/telephone interview invitation to ensure potential participants had time to understand the project aims and the expectations of them as well as opportunity to ask any questions. Focus group participants were given an additional paper copy of the information sheet to read and a consent form to sign immediately prior to focus group commencement. Telephone interviewees were asked to return a signed consent form prior to the agreed interview date and were asked to verbally confirm that they had read and understood the participant information sheet and consented to be interviewed immediately before the interview took place. Focus group and telephone interview invitations and responses were managed by an academic administrator, rather than the researchers, to limit any effect of perceived power held by the researchers or bias in participant sample¹⁴.

The focus groups and telephone interviews were audio-recorded and transcribed verbatim. At the end of each focus group and interview a short debrief was undertaken with all participants to outline publication and dissemination plans, security of interview data and signpost participants to sources of support if required.

The data from the focus groups and telephone interviews were analysed thematically using Braun & Clarke's 6-step process¹⁵. This rigorous approach to thematic analysis was chosen to draw out the recurring themes raised in the data. Two researchers analysed the data independently, then compared findings and discussed any variations, before agreeing the final analysis. The analysis process was documented carefully to make sure all coding and theme development decisions were transparent (see Table 1 for detail) and direct participant

quotations have been used to illustrate the themes identified and permit external scrutiny of interpretations.

Table 1. Table summarising strategies used to ensure rigour (adapted from Hardy & Nightingale¹⁶)

QUALITY ASSESSMENT	STRATEGIES USED
1. INTERNAL VALIDITY/CREDIBILITY	1.1 Researcher peer engagement and debriefing, both during and after interviews
	1.2 Triangulation of data: different researchers and different and participant groups
	1.3 Complete interview transcripts were retained to contextualise findings
2. EXTERNAL VALIDITY/TRANSFERABILITY	2.1 Original context described clearly so readers can make judgements about transferability of the findings to their own setting
	2.2 With small numbers interviewed it is difficult to generalise widely, but findings showed parallels with nursing, suggesting some degree of transferability
3. RELIABILITY/DEPENDABILITY	3.1 Use of clearly defined and rigorous method of analysis (Braun & Clarke)
	3.2 Use of a clearly defined audit trail, including transcript notes and documented decision-making during analysis
4. OBJECTIVITY/CONFIRMABILITY	4.1 Clearly defined audit trail shows evidence of researcher neutrality
	4.2 Interview schedule, whilst flexible, followed a script linked to the situational vignettes thus reducing the potential for researcher bias
	4.3 Use of reflective diary to identify any worries or concerns which arose during data collection
	4.4 Reading transcripts alongside digital audio recordings to pick up any suggestion of bias in the interviewer's tone of speech or affirmation
	4.5 Retaining transcript identifier codes alongside quotations to avoid over-reliance on any one transcript or quotation

The key findings and themes related to PCC actions from the perspectives of all participants in stage 1 and stage 2 were aggregated to generate audit tools to be adopted within clinical practice to assess level of engagement with PCC at individual and organisational levels.

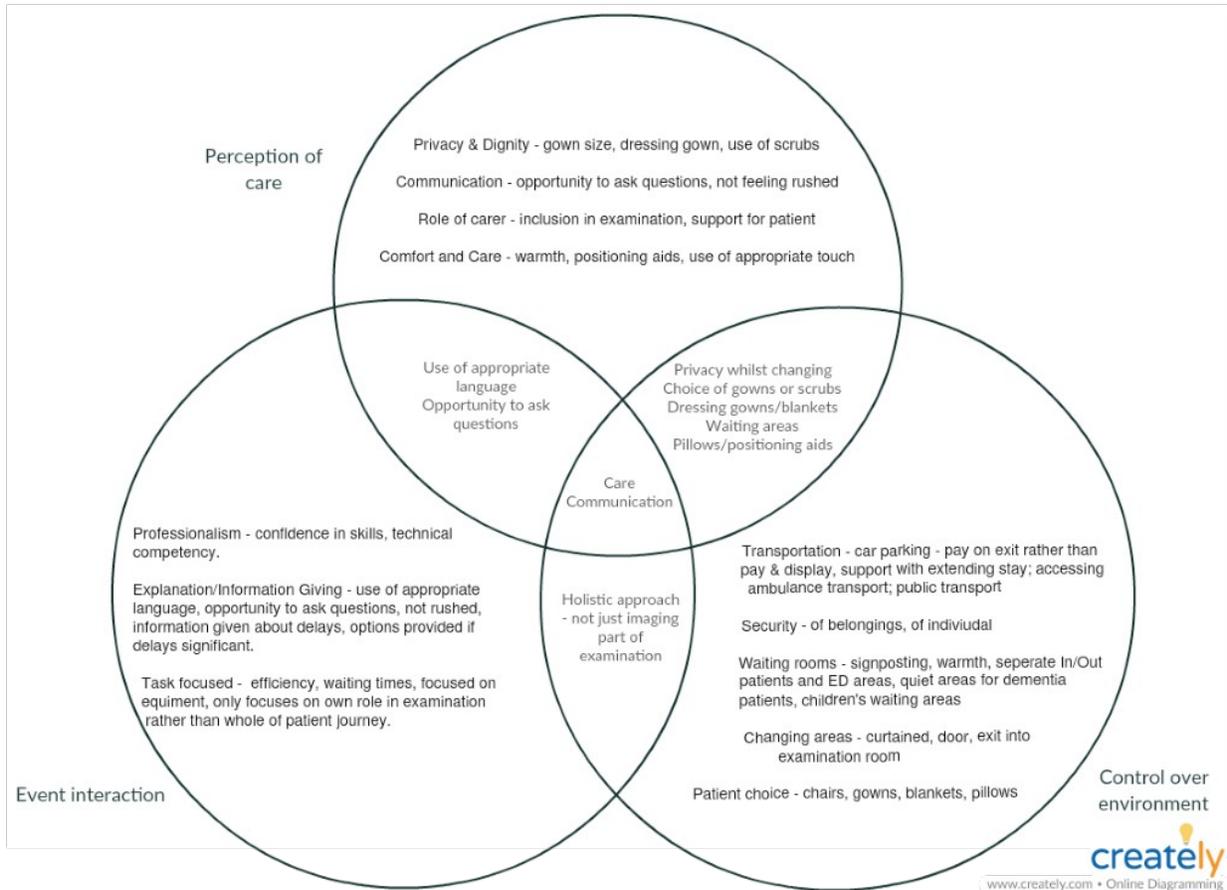
Results

A combination of focus groups and telephone interviews were undertaken between March and June 2019. Two focus groups were held with service users, one in the North of England with two participants and one in the Midlands with four participants. One additional service user was unable to attend the focus groups and was interviewed by telephone. Two focus groups were held with clinical radiographers, one in the North of England with two participants and one in the South West with two participants. A further clinical radiographer was unable to attend the focus groups and was interviewed by telephone. Due to diary commitments, no radiography manager was able to attend a focus group and all four participants were interviewed by telephone.

Following Braun & Clarke's 6 step process for thematic analysis, the categories, sub-themes and themes were identified and, where appropriate, mapped to the key areas of stage 1 data (use of technology; comfort and care; and control over environment). However, it became apparent that these key areas did not encompass all of the sub-themes arising from the focus group and interview data and the additional sub-themes of transportation and car parking, security, and privacy & dignity emerged. Further evaluation of the categories and sub-themes across both stages resulted in the evolution of two stage 1 themes to better reflect participant feedback, embedding imaging technology within, rather than considering it out with, the care process. These new themes were 'Event Interaction' which replaced 'Use of Technology' and 'Perceptions of Care' which replaced 'Comfort and Care'. The 3rd theme, 'Control over Environment' remained unchanged.

The detailed mapping of the Stage 1 and Stage 2 data also highlighted areas of overlap between the themes where categories or sub-themes appeared in more than one theme (see Figure 1). Importantly, the mapping process also enabled the sub-theme of 'care and communication' to be identified as the central and overarching tenet of PCC.

Figure 1 – Venn diagram showing overlap between themes, sub themes and categories



Within the presentation of results below, the following codes have been used to denote different participant groups:

- CR – clinical radiographer
- RM – radiography manager
- SU – service user

Event Interaction

Stage 1 survey responses identified disparity between participants with respect to the theme of 'Use of Technology', particularly around how the use of technology was communicated to service users. Clinical radiographers and radiography managers reported a high level of expected or actual communication about the imaging examination and the use of technology; however, service users reported that this was not their experience. In Stage 2, more detail about this disparity emerged.

The vignettes drew out discussion about the need for communication to provide clear information about what was going to happen before, during and after the imaging examination. However, service users also highlighted that good communication should not purely focus on the technical examination and technology but also consider patient wellbeing, possibly engaging in general day-to-day topics to enable positive relationship building.

“I think, probably for radiographers more than quite a few other professions, they’ve got to be experts in something that’s a bit more technical. They’ve got to be good at the technical, but maybe the communication thing is as much their skill set. It really needs to be worked on because from the patient’s point of view they’re both equally important.”

SU03

“You want the person [radiographer] to smile, to engage with you as a person, not purely [as] a patient. So sometimes it’s just a few words, could be about the sort of time you took to get there or the weather or anything, it doesn’t have to be formal, that’s the main thing.”

SU07

When clinical radiographers discussed the impact of communication on patient care it was clear that they knew from experience what a difference it could make to the patient experience.

“...to the patient it could be the chest x-ray that changes their life kind of thing. To us it’s just another chest x-ray, but to that person they could be absolutely really, really stressed about it. And your interaction with them could make the difference...”

CR04

“I think its good communication right from the minute they walk in. Answering their questions, how long is it going to be, where do I get change, where do I sit down?”

CR03

The radiography managers also reiterated the need for good communication and one, who shared their personal experience of being a patient, provided insight into why open communication is key.

“...when I’m in a patient situation my confidence pours away, and it seems to be much worse if I’m having a diagnostic test, simply because I have [laughs] a lot of expert knowledge about it. It’s like a seesaw [and] I’m on the opposite end of that see-saw of confidence. And you would think a radiographer going for a diagnostic test would be ‘happy days’ [expression of everything ok], but it feels the opposite to me.”

RM01

Clinical radiographers also recalled behaving differently as a patient than as a radiographer when discussing the importance of instructions being clear with opportunity to ask questions, particularly in terms of changing into a gown.

“I’ve experienced that myself when I’ve been a patient, you just switch off. So if you don’t explain to people in like very simple terms, yeah, they’re not gonna know. You can’t just stick them in the changing room and assume they know [if] they [are] staying in there [or] are they coming out?

CR04

“ [reflecting on changing room as a patient] You’d want to know what to take off. Is it just my bra, and can I put my t-shirt back on if there’s no metal on it? Or do I put the gown on? Do I have to take everything off? You’d want to know do I need to take these things [clothes] out of the changing room. You’d want to know exactly what clothing you need to take off plus which way round the gown goes [laughs]. That’s not obvious at all. Even I’ve been a patient and got that wrong, even though I’m a radiographer. ‘Cos you go into patient mode.”

CR01

Despite this apparent understanding of need for clear instruction and friendly communication, comments from service users indicated that there was still some way to go to ensure instructions were effectively communicated and understood. Comments also highlighted that some service users may feel confident to ask for help as required, but others may not.

"...not everybody is kind of able to speak for themselves and ask for help like I am."

SU03

" you really want the radiographer to take the lead, to understand what might be the issues...you don't want to have to raise something yourself because you're focussed on your pain, focussed on getting things over and done, and you need somebody who's weighing up and knows the possibilities, where needs to be checked out like are you warm enough or are you comfortable or whatever, not taking the lead yourself, having someone delivering that care not only technically but sort of knowing how to care for you as an individual"

SU07

The opportunity for service users to ask questions and to be invited to ask questions was also recognized as important for assuring understanding and care by clinical radiographers.

"I think as a patient, more than asking them what to do, it's giving them time to speak what they want".

CR02

The Stage 2 data confirmed the disparity between participant groups identified in Stage 1 and importantly confirmed the actuality of service user experiences with comments from both clinical radiographers and managers illustrating the challenges of ensuring effective patient centred communication and care. One of the biggest challenges perceived to affect radiographer communication and care was pressure of time and this was recognised by all participant groups.

"I would just want to emphasise first of all, the people that do this job are caring, solicitous, conscientious human beings. And where they don't behave like that is because they are under time pressure."

SU01

“I know radiographers are extremely busy, but sometimes they can act bored or irritable. But, you can’t display that to a patient, ‘cos it’s adding the stress, and we might not cooperate as well as we might, if they’re not giving us the care we need.”

SU02

“I think there is always a tension, that radiographers think that...trying to engage with a patient’s feelings will slow things down. And I think often it speeds things up. Sometimes it doesn’t always speed things up at the time [of the imaging examination], but overall, looking at the system, it can speed things up in that you might avoid having to raise an incident and then investigate it. Or deal with a complaint, a verbal complaint or a formal written complaint.”

RM01

“It can feel like that...just a conveyer belt of people. Particularly in diagnostics where pretty much you’re getting people through as fast as you can...It can be quite an inhuman place if the little bit of care inside clinicians doesn’t show”

CR05

The communication and interaction between the patient, their carers, and radiographers, as well as other departmental staff throughout the imaging event attendance was central to patients experiencing high quality care. Importantly, it was also seen as central to the delivery of high quality care from the perceptions of both clinical radiographers and radiography managers.

Perceptions of care

Stage 1 survey responses identified disparity between participants with respect to the theme of ‘Comfort and Care’, particularly around actions undertaken to ensure patient wellbeing throughout the imaging event. The vignettes once again drew out discussion about care actions, but it became clear that reflection on the vignette stages prompted recollection of participant own experiences of receiving or delivering care and how they perceived this individually rather than recall of actions. Consequently, the theme of ‘comfort and care’, the phrasing for which could be assumed to be objective and measurable, evolved to be ‘Perceptions of Care’ to represent the individual nature of responses. Importantly, central to this theme for all

participants was the importance of care and communication as discussed earlier (Figure 1) but additional considerations were also identified in provision of holistic care, not least being identifying with the person rather than focusing on the body part, examination or condition, a behavior that was recognized by both radiographers and service users.

“Be considerate really, they’re a person, don’t just view them as a body, going through this machine.”

CR05

“And I think for the radiographer, to not to treat that [patient] as being a nuisance, but to treat it as, I’m not just here to do a procedure, I’m here to help this patient, and the procedure is part of that.”

SU03

As with the event interaction theme, reflection on the vignettes indicated that a more holistic approach is required if diagnostic imaging is to be truly patient centered and this should commence at referral and appointment planning and continue throughout the diagnostic journey. Every step in the journey impacts on service user experience and the situational vignettes drew out several comments about how the scheduling of appointments impacts on PCC.

“And it might be that your appointment needs to be at a different time of day. I mean, early in the morning, you can often be, before your tablets kick in, you can be terrible... I used to have ambulances and I’d have to be ready two hours before my appointment. So your breakfast would be early and you’d want to get to the department [so] perhaps just making sure if it was going to be a long wait, perhaps [staff] saying to the patient, do you want a drink? Perhaps even a cup of water or something. And be aware of people who are diabetic. Over their mealtimes. If they need something for taking tablets with.”

SU02

[appointments running late] "You could beforehand if it's possible...somebody calling you an hour before your appointment and say "yeah we're running behind".

CR02

Another key area highlighted by the vignettes was the role of carers. Participants agreed that involving the carer in the imaging examination was useful and that carers could be very helpful in ensuring a successful and time efficient examination. But essential to this was also taking time initially to ascertain the role and potential contribution of the service user's companion to the imaging examination, a perspective agreed by all participants.

"Literally what is their role? Is it a friendly relative, for the company, or are you there because you are that person's full time carer. And they will not be able to stand up and have a chest x-ray without them kind of thing."

CR04

"[as a carer] I would like them to acknowledge that I am with my relative, and to look at my relative and to say have you brought somebody with you? And understand who I am, either a carer or relative, and what the relationship is. Because that would be supportive for my relative. And in actual fact, I might be able to help. So, for example, it might be that getting changed is difficult. And so by engaging with me and letting me be with my relative through [the examination], I can help to dress and undress them, and be an emotional support to my relative. And also, in the same way, aid the radiographer with their goal, which is to get this person to have a chest x-ray. And then move them out of the department, on to the next one coming through."

RM01

"And to be aware, if you've come with somebody, you're the expert on how they're going to cope in the room. And actually, they're making their life probably a bit easier as radiographers, if the carer is able to calm the relative down."

SU03

The final key area raised was patient comfort in the context of positioning for examinations and it was apparent that flexibility in projection acquisition, including use of positioning aids such as sponges, was often very effective in improving patient comfort and helping them maintain the position required. However, alongside this was the integrity of communication with patients in terms of length of time of holding the position, particularly where the patient was in discomfort.

“when patients get on the table, they’re like ‘oh this is really uncomfortable’. And then you put the pad under they’re like actually that’s ok now.”

CR04

“Give me some sense of how long it might take, and what mechanisms there might be to help me lie still. ‘Cos there’s that tension between, I’ve got to be accommodating for that radiographer, ‘cos they’ve got to get on, but if they don’t give me enough time to let my back settle and get that cushion under my knees, in the right spot, or even a little thin pad under my back, that might make all the difference. But there’s a tension between feeling of being a nuisance...or maybe having a few extra seconds of time to make me comfortable that means I’ll be able to tolerate the scan without moving at all.”

RM01

*“Giving us an idea of how long [the examination is]... if they say ‘oh it’s going to be 2 minutes’ and you think oh I can stand that. But **be** 2 minutes, or say to them, I’m sorry I’m going to have to start again...It’s really being truthful. Airy, fairy “oh I’m only a couple of minutes love” and then you’re there 10 minutes and in screaming agony. It’s the truth of the situation you might say. They (radiographer) might think they’re being comforting, saying its only 2 minutes, but it’s not.”*

SU02

Simple adaptations such as ensuring availability of sponges and supports, greater engagement of a carer in the examination and honest communication with a flexible approach to working in partnership with the patient to achieve a successful imaging examination may make the difference between a service user being able to tolerate an imaging examination and perceiving personalized care or not. Interestingly, all participants when reflecting on care did so from the perspective of the patient. Clinical radiographer and service manager responses to the stage 1 survey raised areas of contradiction supporting the original premise that your role in the

examination (patient (care receiver) or health professional (care giver)) alters your perception of care. Consequently, this adds validity to the importance of this work in developing shared PCC values for diagnostic radiography.

Control over environment

Stage 1 survey responses identified disparity between participants with respect to the theme of 'Control over Environment' although during Stage 2, consensus between participants was observed with respect to offering options to change music and lighting to suit service users preferences and consideration of patient warmth and provision of a blanket.

"To us its warm because I'm running around all the time. But to my patients, its freezing. So erm, its offering things like 'are you warm enough, do you want a blanket to cover you?"

CR05

Participants also concurred with regard to the lack of dignity offered by hospital gowns, the public location of changing rooms and expectation of sitting in a busy waiting area in a gown. An additional service users concern was being unable to call for assistance in changing.

"So...gowns are a whole concern, they are a very standard size. And there's always the concern about if you put it on the front way so your bottom's covered, and wrap it over then there might be a radiographer or a radiographic assistant that will say "you've put it on the wrong way round". But of course, most people know that if you put them on the right way round with the ties at the back, then it's hard to tie them, especially if you've got back pain. And also you're then walking along the corridor clutching the sides of the gown, so your bottom isn't exposed. And that's a common scenario that you see, even on television programmes about health care. People trotting down corridors, clutching a gown so their bottom is not exposed, feeling a bit uncomfortable... And when I've done all of that [changed], do I come out, or do I sit in that cubicle? Do I throw the curtain open? Who will be there, because obviously, even if it's a lovely gown, at best that's coming to just below my knees and I'm still feeling exposed in what may be a semi-public place."

RM01

"The cubicle may be too close to the waiting area. If you said we came back out of the cubicle and sat back in the waiting area... that would be horrible, in the gown..."

RM02

“Also [you need] a way of being able to call the radiographer because you can’t do those gowns up. I had example of this the other week. I had to nobble somebody in the corridor that I didn’t know to help me do the gown up, because I couldn’t access the radiographers. You know, even if it’s a bell to say I’m ready, or I need help. If you’re a long way from the radiographers...but sometimes they’re so busy. I’ve had them say ‘give me a shout if you need any help’. Well, where are you shouting you know?”

SU02

“we change patients into scrubs, probably nicer, nicer for the patients. They have more dignity in a pair of scrubs. And it’s probably more comfortable and easier when they have to climb onto the table. You know, a gown is open down the back or open down the front, depending on how a patient might put it on. We use scrubs top and bottom. I feel there’s more respect and dignity for the patient. And it’s more comfortable when patients are lying down, which can be quite long periods of time... I don’t like any of the gowns, the x-ray gowns especially ‘cos most of them are open at the back and have the ties. If they’re going to put me in a gown I’d want another gown to put over it.”

RM03

Suggestions to overcome these very real issues of loss of dignity were limited, with clinical radiographers offering no solutions and radiography managers expressing frustration over budget constraints restricting their ability to address this. Consequently, while radiographers and managers empathized and shared service user anxieties, they accepted rather than challenged these environmental concerns. Service users also raised concerns about waiting room facilities, particularly with regards to suitable seating and reception desk privacy and these were once again echoed by radiography managers who repeated frustration over the lack of budget to purchase a range of chair sizes and heights for waiting areas whilst also recognizing the significant difference this could make to the service users’ experience.

“Well you know what my problem was when I went in with my bad back? All the chairs were like this [indicates armless chairs in room] well I couldn’t sit down and I wanted a chair with arms on. I think there was about 2 only in the waiting area and I thought well I can’t stand up, what am I going to do you know so I’d got to try and get one near

a wall, the nearest one to a wall so I could sit down and get up because I wanted an armchair you know...”

SU05

Finally, within the theme ‘control of environment’, the journey through the imaging department as a whole and its impact on patient well-being and perception of care was considered. Importantly, beyond the perception of process automation that depersonalized the diagnostic examination, communication regarding results, next steps and explanation of need for repeat imaging impacted greatly on perception of care.

“Because the amount of time you actually deal with a professional person in an x-ray situation is quite short really. You meet somebody, you sit down, somebody comes and announces your name, you walk off down a corridor and there’s a room or curtain off or something and they say put this gown on and I’ll come back for you and then you get taken into an x-ray room, you do as you’re told, you put your arms there, legs there or whatever and next thing you’re back in the cubicle again waiting for the radiographer to come and say yes that’s alright you can get dressed and you get dressed and you go. You don’t have a right lot of interest [from the radiographer] unless you’re doing something lengthy and complicated where you are some time with the radiographer.”

SU04

“...just those little bits of somebody asking you, even if you’re just warm enough, is... caring, that you’re not just another person coming through on a conveyor belt.”

CR05

“I think the main concern...certainly for me, is if they had to repeat a particular operation you think, why didn’t they get it right the first time or does that mean that they’ve found something that’s going to cause me concern.... I mean its 2 years since I last had an x-ray and if I had to go back or repeat something that would cause me more anxiety than anything else”.

SU06

“[conversation between CR04 & CR05 relating to patient questions regarding receiving results at end of examination] (CR04) Do I have to do anything or...are the results going to come to them, or is it their responsibility. Who, how do they find out the results?... (CR05) And a good one is, if it's a GP one, how do I find out from a GP? [laughs] Every GP's different. [laughs] erm, so it's like if you don't hear within so many days, ring up, a little bit of assurance that you can do something about it if you haven't heard in a timely manner that you think is appropriate... 'cos I think probably your worst fear is that it's got missed somewhere. (CR04) 'cos it does happen doesn't it. (CR05) Yeah, and everyone knows it does. So it's, reassurance that there's someone to ring”

CR04 & CR05

Issues around transportation to and from appointments, in particular ambulance transport, a lack of public transport or car parking issues, were also highlighted by service users as creating stress and anxiety. This was by acknowledged clinical radiographers and managers but once again they felt unable to positively influence these issues although a service user suggested that changing the car parking payment policy from 'pay and display' to 'pay on exit' would alleviate car parking anxieties.

“I think the car parking is the big issue in the whole scenario. It makes people so anxious, car parking. And I guess if it was free that would solve that problem in a stroke wouldn't it. But it's that 'oh my tickets running out'. Because they [the patient] never seem to know how long it's going to take when they're at the parking machine...So they get in the department and they're suddenly running out of time.”

CR03

“We do have the whole car parking thing, but that doesn't really belong to the radiographer, but it does show [patient anxiety]...if it's pay when you come out rather than pay & display, that would take all that stress off wouldn't it. I mean you still have to pay, and the NHS would still be getting it's revenue, but it, it can be done because they do it in other car parks don't they.”

SU03

Discussion and Recommendations

The results of Stage 2 provided a more in-depth insight into service users and service deliverer's perceptions of PCC in diagnostic radiography. Importantly, responses varied according to the role the participant took in the situation suggesting that a person views PCC through the lens of their role in the situation potentially explaining the disparities in responses in Stage 1. Interestingly, during stage 2, all participants took on the role of patient at some point during discussions and in this 'role' greater cross group agreement in the perception of PCC was observed and participants made many suggestions that could make a significant difference to PCC.

A significant area for change related to care communication, an area of overlap between all the themes (Figure 1). Suggestions about how care communication could be improved included the consistent use of "Hello my name is...", clearer information about waiting times via use of digital displays and a more consistent and transparent approach to explaining how to access results. In addition, the option of a quiet area to wait if required, communication of long waiting times and offer of refreshments or help with managing parking issues caused by delays would be welcome. Interestingly, there is significant overlap between the suggestions made by participants in this study and a number of professional body publications from the UK and Canada^{5,6,17} and recommendations made by researchers in South Africa.^{10,11} These suggestions are generally low cost, have little impact on examination times and patient throughput and could be implemented quickly and easily by reception staff or Imaging Assistants thereby presenting 'quick wins' for improving PCC within diagnostic radiography.

Suggestions for improvement to direct care included issues around clothing, the inclusion of carers and the use of positioning aids. The participants in this study felt that a change from hospital gowns to use of hospital scrubs or tracksuits would significantly improve both warmth and dignity for service users. However, these findings came from a small group of service users with a limited range of physical abilities and conditions. As a result, it must be acknowledged that other service users may prefer a traditional gown and therefore providing the option of a gown, scrubs or tracksuit may be an important aspect of an individualized PCC approach. In addition, more standard use of blankets and duvets to help keep service users warm would be welcomed. The inclusion of carers in the imaging examination was highlighted as an opportunity that is often missed to provide more PCC. Participants from all groups highlighted that the role of an attending adult is not always ascertained and carers are often asked to wait outside the changing area and/or imaging room due to radiation safety/magnet safety concerns.

Participants felt that carers could be used to provide additional support for service users ranging

from helping with changing to support in the imaging room. The greater use of positioning aids and pads to support patients and provide pain relief as well as considering whether a break in maintaining the position might be possible were also suggested. Again, there are many similarities with professional body documentation^{5,6,17}, which adds weight to the importance of these PCC approaches. Some clinical radiographers already provide these elements of care however, based on participant responses, more widespread provision would be welcome and represent greater levels of PCC.

In both Stage 1 and Stage 2 it was clear that time pressures were having a significant impact on the amount of PCC radiographers were able to deliver and this was evident to patients reflecting on their interactions. Clinical radiographers and radiography managers all discussed the importance of keeping to time, and the pressure that was felt if appointments were running late or the waiting room was full. As a result, efficiency seemed to be driving decision making, with appointment times kept as short as possible and little capacity in the system to allow for greater PCC. However, reflections from all participant groups also suggested that improvements could be made but to enable this, a change in organisational and professional culture may be required to move radiography practice away from its current focus on efficiency of image acquisition, a phenomenon also identified by Hendry¹⁸ and Bleiker *et al*⁷. Importantly, the imaging technology itself was not identified as a barrier to care by any participant group with service users in particular perceiving it to be integral to the purpose of the interaction and necessary to facilitate future care and direct the correct treatment pathway. Consequently, it was the emphasis on service efficiency and patient throughput that all participants identified that was the biggest barrier to high quality PCC.

Reflecting on the evidence presented, we must consider whether the time has come for the radiographic profession to challenge existing service delivery approaches and put forward the case for prioritizing PCC over efficiency? The counter argument would be that this would require longer appointment times and impact on department capacity and waiting lists. But should radiographers be advocating for a better patient (and radiographer) experience rather than accepting increasing workloads and the seemingly inevitable negative impact this may have on patient experience? We would argue yes and that this could be achieved by extending the length of the working day for routine imaging to allow service users to attend during evenings or weekends. Anecdotally, some organisations have already initiated this but many still focus on emergency or urgent imaging during evenings and weekends with services run on minimum staffing levels. However, the impact of any change in service delivery needs to be measured to

ensure it is meeting the expected improvements in PCC. Using the findings of Stage 1 and 2 of this research, a 'Pause & Check' audit tool (Table 2) has been developed to objectively assess observable PCC during the whole diagnostic imaging journey, record achievements and identify areas for improvement. The tool is based on similar 'Pause & Check' tools developed by the UK Society & College of Radiographers¹⁹, and is aimed at radiographers working within diagnostic radiography. The use of the popular 'Pause & Check' approach was chosen as it should be familiar to clinical radiographers and radiography managers and would support delivery of PCC before, during and after the diagnostic examination. Other areas for change were suggested that require organisational commitment to PCC and hence an organisational checklist for PCC is also offered (Table 3) for consideration by departmental managers. This organisational checklist details measures of PCC that may require higher level approval and/or funding to implement. Neither checklist should be used in isolation as successful commitment to PCC requires engagement of both the healthcare professional and the organisation to ensure a culture of PCC can thrive.

Table 2 - Pause & Check Audit Tool for measuring Patient Centred Care in Diagnostic Radiography

Pre Examination Checklist		
Element	Considerations to be made	Yes, No or Not Applicable
Patient	<p>Have you ensured that the patient and/or carer understands what is going to happen during the examination?</p> <p>Have you provided an opportunity for the patient and/or carer to ask questions about the examination?</p> <p>Have you considered the role of the carer in the examination (if appropriate)?</p> <p>Has communication been appropriate for the individual patient so far?</p>	
Attire	<p>Does patient need to change? If so, is there an appropriate gown size for them?</p> <p>Have you explored the availability of dressing gowns?</p> <p>Have you considered whether use of theatre scrubs or a tracksuit is appropriate?</p>	
User needs & wellbeing	<p>Does the patient have any specific needs which should be considered?</p> <p>Does the patient need any assistance to change?</p> <p>Has the patient been offered options to help support them during the examination, such as pads?</p> <p>Could the patient benefit from a break midway through the examination?</p>	
Safety & Security	<p>How can the patient be supported to maintain the position needed for the examination safely?</p> <p>How will the patient's belongings be kept safe & secure for the duration of the examination?</p> <p>Has the safety of the carer been considered (if appropriate)?</p> <p>Have infection prevention and control measures been considered?</p>	
Environment	<p>Do the lighting levels need to be adjusted for the patient?</p> <p>Have you offered a choice of music (if available)?</p> <p>Have blankets or other ways to maintain warmth been offered?</p> <p>Are examination aids available?</p>	
During Examination Checklist		
Element	Considerations to be made	Yes, No or Not Applicable
Patient	<p>Does the patient and/or carer understand what is happening during the examination?</p> <p>Are there continued opportunities for the patient and/or carer to</p>	

	ask questions about the examination? Does the carer have an appropriate role in the examination? Has communication been appropriate for the individual patient so far?	
Attire	Is the patient appropriately covered by the clothing they are wearing for the examination? Was there a dressing gown available for the patient?	
User needs & wellbeing	Have any specific needs the patient has been considered? Has the patient been provided with options to help support them during the examination, such as pads? Has the patient/carers been asked if a break is required midway through the examination?	
Safety & Security	Has the patient been supported to maintain the position needed for the examination safely? Are the patient's belongings safe & secure for the duration of the examination? Has the safety of the carer been considered (if appropriate)? Have infection prevention and control measures been followed?	
Environment	Are the lighting levels suitable for the patient? Was a choice of music provided (if available)? Were blankets or other ways to maintain warmth offered? Were examination aids available?	

Post Examination Checklist

Element	Considerations to be made	Yes, No or Not Applicable
Patient	Have you ensured that the patient and/or carer understands how to get the results? Have you provided an opportunity for the patient and/or carer to ask questions about how the examination went?	
Attire	Does the patient need to change back into their own clothes now? Does the patient need any assistance to change?	
User needs & wellbeing	Does the patient/carers know what the next steps are in the patients' diagnostic journey? Does the patient have any specific needs which should be considered? Does the patient need assistance to access their travel home?	
Safety & Security	Is there any specific after care advice the patient/carers requires? Can the patient eat and drink normally now? Are there any infection prevention and control measures which need to be highlighted?	
Environment	Does the patient know the way out of the department?	

Table 3 - Organisational measures of Patient Centred Care in Diagnostic Radiography

Element	Considerations to be made	Yes, No or Not Applicable
Accessing the Imaging Department	<p>Is there signage indicating the location of the Imaging department from the main hospital entrance/s and departments?</p> <p>Is the signage clear and understandable?</p> <p>Are greeters, volunteers etc. on hand to offer directions is required?</p> <p>Is there an internal patient transport system, if required?</p>	
Waiting Areas	<p>In the Imaging department waiting areas, are there a range of seating styles and heights available to suit individual patient preferences/needs?</p> <p>Are sub waiting areas available to accommodate individual patient needs, e.g. children's areas, in patient areas, outpatient areas, quiet areas.</p> <p>Are members of staff visible and available to help with any concern's patients/carers may have?</p> <p>Are current waiting times or any delays in appointment times clearly communicated?</p> <p>Are waiting areas clean and tidy? Is hand sanitizer available?</p>	
Professional interaction	<p>Are all members of staff welcoming and friendly?</p> <p>Is patient confidentiality respected at the reception desk?</p> <p>Do staff use appropriate language and/or terminology when talking to patients/carers?</p> <p>Is the role of the carer clarified prior to examination?</p> <p>Do members of staff encourage and answer questions from patients/carers appropriately?</p> <p>Is due care and attention paid to infection prevention and control measures?</p>	
Availability and Style of Hospital Clothing	<p>Is consideration given to whether patients' need to change for their examination or not?</p> <p>Are different sizes and/or styles of hospital gowns available to suit patient's needs?</p> <p>Are dressing gowns available, if required?</p> <p>Are alternatives to hospital gowns such as theatre scrubs or tracksuits available?</p> <p>Are patients suitably covered, and is their dignity maintained?</p>	
Availability and Style of Changing Rooms	<p>Are the changing rooms adjacent to the imaging room?</p> <p>Does the patient need to return to the waiting room after changing, or can they enter the imaging room directly?</p> <p>Are the changing rooms curtained or do they have walls?</p>	
Obtaining Results & After care	<p>Is it clearly explained to patients/carers what the next step is in the patient's journey?</p> <p>Are results of imaging examinations available in a timely fashion?</p> <p>Is appropriate advice provided to patients/carers about any after care required, such as special dietary needs? Is this advice available in different formats if required?</p>	

Limitations

This study has several limitations that should be considered when interpreting the findings. Participants based responses purely on their own experiences and their interpretation of the vignettes and were not reporting experiences on behalf of patient groups, radiographers and managers. However, the UK wide geographical area from which participants were drawn suggests that the findings are representative of experience and practice across the UK and not limited to isolated regions. The study included perspectives from a wide range of ages, social groups and people with protected characteristics (as defined by the Equality Act, 2010)²⁰ which suggests that the findings are representative of the population and not limited to specific demographic groups. The use of focus groups did pose some organisational challenges with some participants finding it difficult to physically attend. This led to the focus groups recruiting fewer participants than planned, but the shortfall in focus group participants was offset by the use of telephone interviews. The audit tools offered have been informed by service user and service deliverer's responses, however the tools have not yet been tested for validity.

Conclusion

It is evident from the results of Stage 1 and Stage 2 that we have some way to go before we have parity in how care within diagnostic radiography is perceived, experienced and delivered. Possible solutions and sources of support have been offered to increase PCC within diagnostic radiography. It has been shown that PCC is a measurable entity and could be audited using the organisational checklist and Pause & Check list presented in this paper. The importance of communication and care have been reaffirmed, and their centrality to all aspects of PCC has been highlighted. Finally, the responsibility of radiography managers to act as advocates of PCC and consider PCC within departmental workloads has been highlighted as crucial if PCC is to be prioritised over service efficiency.

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