

Retention of radiographers in the NHS: influencing factors across the career trajectory

NIGHTINGALE, Julie <<http://orcid.org/0000-0001-7006-0242>>, SEVENS, Trudy, APPLEBYARD, Robert <<http://orcid.org/0000-0002-8882-6813>>, CAMPBELL, S. and BURTON, Maria <<http://orcid.org/0000-0002-5411-8181>>

Available from Sheffield Hallam University Research Archive (SHURA) at:

<https://shura.shu.ac.uk/30962/>

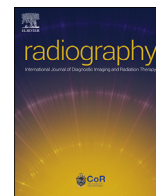
This document is the Published Version [VoR]

Citation:

NIGHTINGALE, Julie, SEVENS, Trudy, APPLEBYARD, Robert, CAMPBELL, S. and BURTON, Maria (2022). Retention of radiographers in the NHS: influencing factors across the career trajectory. *Radiography*, 29 (1), 76-83. [Article]

Copyright and re-use policy

See <http://shura.shu.ac.uk/information.html>



Retention of radiographers in the NHS: Influencing factors across the career trajectory



J. Nightingale ^{a,*}, T. Sevens ^a, R. Appleyard ^a, S. Campbell ^b, M. Burton ^a

^a Dept of Allied Health Professions, Sheffield Hallam University, United Kingdom

^b Breast Imaging Department, Yeovil District Hospital NHS Foundation Trust, United Kingdom

ARTICLE INFO

Article history:

Received 11 June 2022

Received in revised form

14 September 2022

Accepted 10 October 2022

Keywords:

Workforce Retention

Flexible working

Generational theory

Career progression

Continuing professional development

ABSTRACT

Introduction: In order to meet the rising demands for imaging and radiotherapy services, the chronic workforce deficits experienced in many countries must be addressed. Improving workforce retention is essential; factors influencing radiographer attrition from the NHS have been previously reported as challenging working patterns, lack of flexibility in working patterns and lack of timely career progression and CPD. This article explores how these influencing factors for radiographers to leave the NHS change at different stages of the career trajectory.

Methods: A qualitative research design using framework analysis explored via semi-structured telephone interviews (n = 44) the perspectives of radiography managers, radiographers who have left the NHS, and those considering leaving. Purposive sampling ensured representation across radiography disciplines, geographical and organisational diversity, and stages of career.

Results: The application of Generation Theory revealed how the emphasis on the influencing factors to leave or remain within the NHS changes across the working life of radiographers. Early career radiographers were found to be a more transient workforce leaving for increased career opportunities, mid-career radiographers were more likely to leave due to the lack of progression and CPD and late career radiographers due to the inflexibility of working patterns and conditions. It is imperative managers consider the needs and requirements of each generation of radiographers to improve radiographer retention.

Conclusions: The different needs between the generations of radiographers should be viewed in terms of the strengths that they may bring to the workplace, rather than the challenges that they may pose. This generational timeline does not stand still and the learning is a continuous process.

Impact on practice: Recommendations are presented which will be a catalyst for sharing of best practice between radiology and radiotherapy centres.

© 2022 The Author(s). Published by Elsevier Ltd on behalf of The College of Radiographers. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

Rising demand for radiology and radiotherapy services worldwide, coupled with persistent radiographer shortages and high vacancy rates, present an urgent workforce issue.^{1–4} Workforce strategies have traditionally focussed on increasing entrants to the profession, yet their effectiveness may be counter-balanced by loss of existing radiographers.^{5–8} Within the United Kingdom, predicting attrition due to retirement is relatively straightforward,

with an estimated 9% of leavers expected from the diagnostic radiography workforce between 2016 and 2021, and 6% of leavers expected from the therapeutic radiography workforce in the same period.⁹ However accurately predicting the number of leavers due to early retirement, or other non-retirement reasons, is more challenging. These predictions are concerning, with Health Education England workforce figures indicating that 28% of diagnostic and therapeutic radiographers are likely to leave the NHS in this same five year period for non-retirement reasons.⁹

The 2019 King's Fund 'Closing the Gap' report¹⁰ calls on the NHS to review workforce practices to improve staff retention in later career stages. These staff often wish to continue to work, "but the rigid structure of NHS employment and rostering means that there can be an 'all-or-nothing' approach, with long shifts and undesirable work-life balance" [p. 39].¹⁰ There could be untapped potential to

Abbreviations: CPD, Continuing professional development; NHS, National Health Service (UK).

* Corresponding author.

E-mail address: J.Nightingale@shu.ac.uk (J. Nightingale).

<https://doi.org/10.1016/j.radi.2022.10.003>

1078-8174/© 2022 The Author(s). Published by Elsevier Ltd on behalf of The College of Radiographers. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

retain their expertise up to and beyond statutory retirement age through more flexible working practices.^{6,10} However high vacancy rates are not only a consequence of early retirements; radiographers may divert their careers to the independent sector or leave the profession to pursue other life choices.¹¹

To better understand this leaver profile, this qualitative study aimed to identify why radiographers leave the NHS early, and what incentives are important in their decision to stay.¹¹ In an earlier publication, Nightingale et al (2021) identified three over-arching factors influencing these decisions (Fig. 1), providing service managers with a broad understanding of the stressors impacting on their workforce and informing targeted interventions to improve radiographer retention.¹¹

When considering the career span of a radiographer (up to 45 years), it is reasonable to assume that the factors impacting upon the decision to leave or remain may change in their emphasis over time. Early career radiographers [preceptorship to five years post-registration] are establishing themselves as autonomous professionals and determining early career choices. Mid-career radiographers may be developing specialist expertise, working whilst studying postgraduate education, and may have a major role in managing teams and supporting career development of others. Late career radiographers include senior leadership positions, and are within 5–10 years of retirement. These career stages each bring with them unique professional challenges as well as changing personal circumstances that may impact on morale, wellbeing and retention.^{11,12}

Overlapping with these career stages is the notion of generational cohorts, with four generations of the workforce now working and learning within imaging and radiotherapy services.¹³ Generational Cohort Theory, first described by Edmunds and Turner in 2005,¹⁴ proposes that people with similar birth years have a shared history and life experiences, and therefore develop similar beliefs and values; this may promote similar attitudes towards their professional world and working life. This theory is based on an assumption that any differences are created by experiences of the social world around them, rather than purely due to their age or their maturity.¹⁴ Understanding these generational differences and how they impact on radiographer career stages is important as generational attitudes play a major role in people’s experiences of work and study, influencing morale and retention.¹³

This article will explore the range of factors influencing radiographers to ‘remain or leave’ at different stages of their careers,

aiming to assist managers in providing a more nuanced support package to improve retention in their workforce.

Methods

A qualitative research design within a pragmatic framework methodology¹⁵ was utilised; framework analysis is appropriate for research with some *a priori* (known) issues, undertaken within a short time frame and by multiple researchers. Following ethical approval [Sheffield Hallam University Research Ethics Committee no. ER15453637], diagnostic and therapeutic radiographers (who had left the NHS or were considering leaving) and service managers were recruited through a multi-faceted advertising campaign. A purposive, maximum variation approach to sampling was adopted to ensure adequate representation of radiography disciplines, geographical spread, career stages and organisations.

The interview topic guide was informed by the literature review and included the following *a priori* questions:

- What are the reasons for leaving/considering leaving the NHS and/or radiography?
- Where do people go when they leave or plan to leave?
- Are there different factors affecting radiographers at different career stages, or working in different modalities?
- What would make a difference to staff (incentives to stay), and what are managers doing to address the issues?

The topic guide was piloted with two recently retired radiographers before semi structured interviews were undertaken by telephone, audio recorded, professionally transcribed verbatim and anonymised. The interviews were undertaken by the research team which included four researchers with radiography backgrounds [three diagnostic and one therapeutic radiographer] and one qualitative health researcher. The team were assigned interviews which most closely aligned to their areas of knowledge and expertise within four specific discipline groups. The first two disciplines were therapeutic radiography (to include managers and radiographer roles in radiotherapy planning/pre-treatment, radiotherapy treatment and radiotherapy review) [undertaken by RA], and diagnostic radiography (to include managers and radiographer roles in general radiography, CT, MRI, interventional/fluoroscopy, and radiographer reporting) [undertaken by JN and MB]. Interviews with radiographers and managers working in mammography and

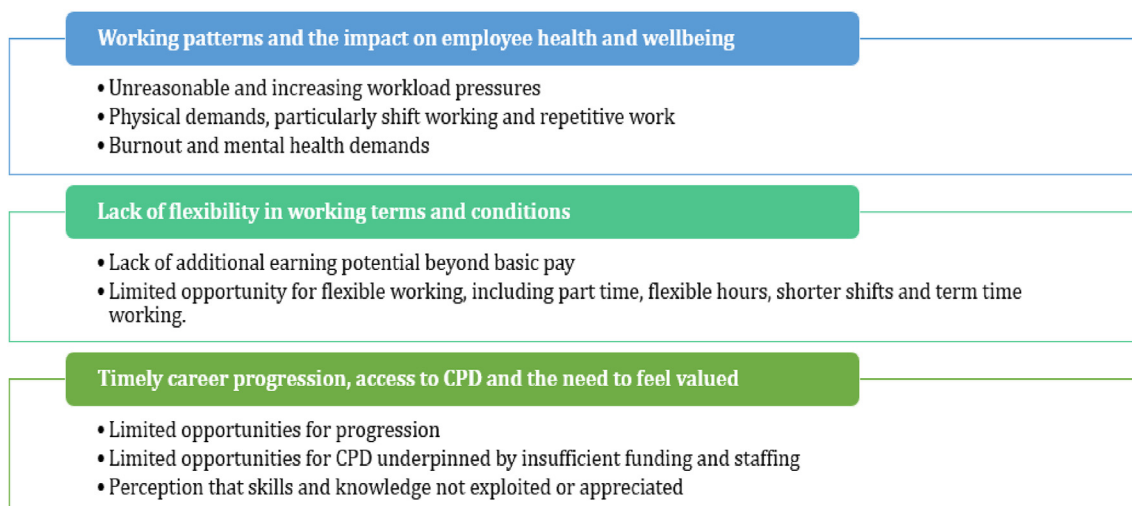


Figure 1. Influencing factors in the decision for radiographers to leave or remain within the NHS (Nightingale et al, 2021¹¹).

sonography roles were undertaken and analysed separately by discipline experts [SC and TS respectively] as they were known to represent a unique working environment with specific workforce challenges. Data collection continued until data saturation was reached. Framework analysis was guided by the *a priori* interview topics.¹⁵ Transcripts were initially analysed within the discipline groups, and then two reviewers with significant qualitative analysis expertise [MB and JN] reviewed the emerging framework to enhance rigour, credibility and trustworthiness.

Results

Forty-four interviews were undertaken, including service managers (n = 12) and radiographers who recently left (n = 23) or were considering leaving the profession (n = 9). The purposive sampling enabled a spread of experiences to be captured across four professional groupings and across different career stages (Fig. 2), including those in early career roles (n = 9), mid-career roles (n = 15) and late career roles (n = 10).

Influence of life events

Three primary influencing factors for the decision to leave or remain in the NHS have been previously reported (Fig. 1).¹¹ The managers interviewed within this study could identify how significant life events (marriage, birth of children, elderly caring responsibilities) impacted on their radiographers at different career stages, and this would make them vulnerable to leaving either their hospital, their profession or the NHS at different points in their working lives.

One manager explains how he/she noted a pattern of life events which appears to regularly impact on retention of staff, particularly as their hospital is situated in a 'desirable' location:

We've had one or two go to relocate geographically ... it is expensive to live here. So typically a lot of our workforce lives about an hour's drive away ... people will do that for two or three years and then they get tired of it, especially as home or family dynamic changes ... and then they start to have a family and then they figure

out they need a three or a four bedroom house, and then they can't afford one here. [DR/manager]

These patterns of life events appear to be drivers which combine with professional and career factors which are both seen to change across the different career stages and generations, posing different risks for radiographer wellbeing and retention at each stage (Fig. 3). The findings are now presented aligned to early, mid and late career radiographer stages.

Early career

Early career radiographers are often a younger and more transient workforce who are less likely to have ties to a particular region or hospital. While most move to other radiography posts, a small number become disillusioned with the profession at an early point in their career. In therapeutic radiography, potentially influenced by a high proportion of mature entrants, the radiographers interviewed in this study rapidly became bored with a lack of career progression. These participants were frustrated that their skills and knowledge were not exploited or appreciated; they were demoralised by the prospect of 'years of service' before promotion opportunities were realised.

I was really career driven, and I felt very blocked at band 6 level ... in most of the cancer centres that we have there isn't that progression. I think people have to literally leave or come to the end of their retirement before you can get a band 7. And so I had itchy feet for that, and I ... think those were times when I thought right I'll go and do something else. [TR/left]

You were just kind of factory workers, and that wasn't the buzz for the job, and I struggled doing the same thing, and working on the same machine day in day out for the year. It wasn't for me. [TR/left]

I felt like I was contributing a massive amount to the department and I wasn't getting what I deserved as a result of that contribution. And I think that if that contribution was at least acknowledged by anyone I would have felt better about things, I would have

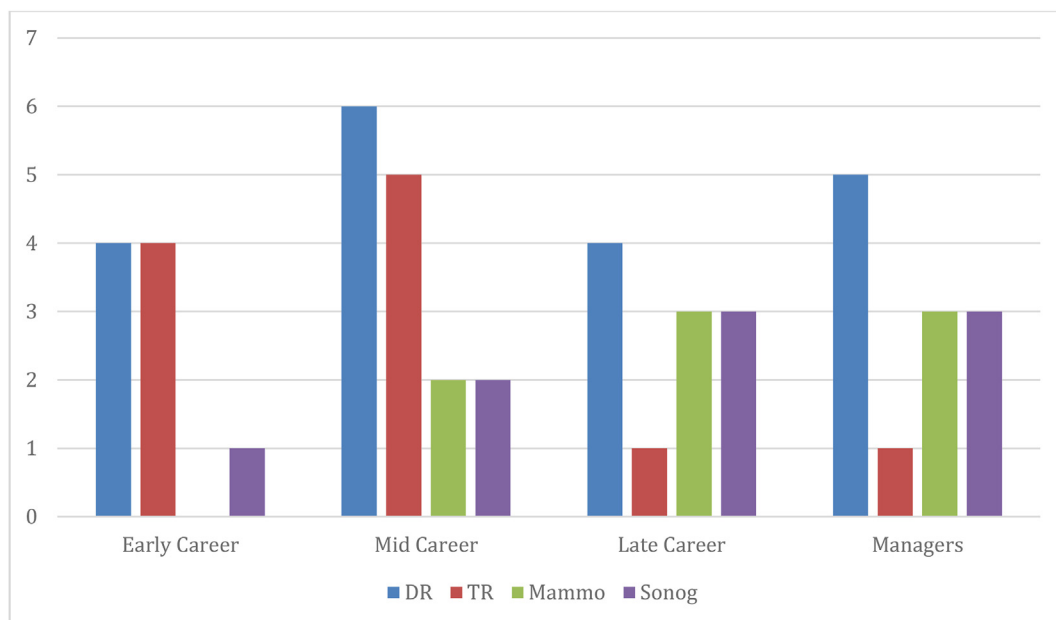


Figure 2. Participant career stages and radiographer disciplines. Early career radiographers were not expected to be found within the mammography and sonography groups. Some managers within these two groups held dual roles where they were also undertaking regular clinical practice.

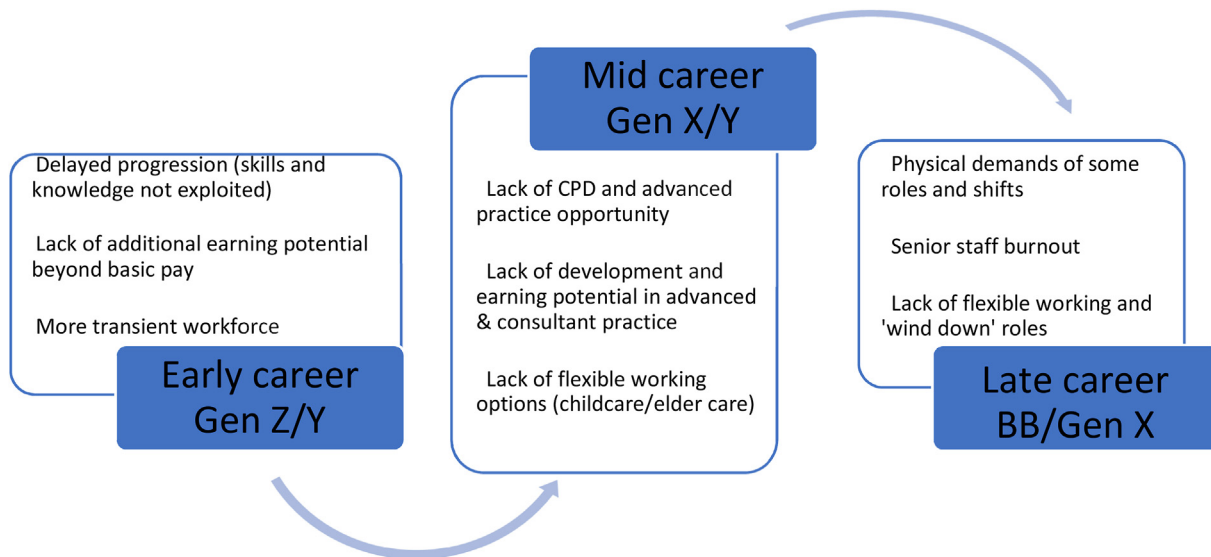


Figure 3. Primary reasons for radiographers to leave the NHS or the profession at different career stages aligned to generations.

definitely felt better about staying. But there was no appreciation for all the hard work that I and other people had put in from management in itself. The lack of appreciation was quite stark really; it was quite annoying. [TR/left]

Private healthcare and public health related opportunities became increasingly attractive; not necessarily for more pay, but facilitating roles that spanned their full scope of practice. A private sector imaging manager reaffirmed this expectation:

... even though they do MR and CT, they are expected to also do general radiography ... They're multi-skilled and are expected to do that. So, because we are small and we have to remain flexible, I can't have someone saying 'oh I'm an MR radiographer', when I'm saying 'no you're going to theatre'. [DR/Manager]

While few early career radiographers directly cited pay as an issue, one sonographer who was considering leaving expressed concerns about their pay in relation to the responsibility that they held:

It's quite a responsible job when you don't get recognition or payment. I'm getting paid £8 per scan when you've taken tax off for looking in detail at a foetal heart. And that could mean a big difference to a mum and a baby, but I'm paid £8. [Sonog/leaving]

Several participants cited frustrations at a lack of *additional* earning potential beyond their basic pay, particularly when they were saving for significant life expenses such as a house deposit, wedding or car. Several had registered with radiography agencies and bank work at other hospitals, working additional shifts around their standard working hours. Over time several began to appreciate the flexibility of agency work, leaving the NHS to concentrate on agency employment:

I actually get paid less than I used to, because I don't do all the enhanced shifts anymore and that's an irony in itself. [DR/leaving]

the old on-call systems went and we now have a more structured shift pattern of working. With that there was a loss of income for many radiographers ... if a new radiographer wanted to save a deposit for a house, it's quite difficult for them to do that as a band 5 radiographer if there's a lack of overtime. So it's attractive to newer radiographers to go locum and work for an agency ..." [DR/Manager]

[Agency poaching] tends to be one of the things that leads to an instability in your staffing, if they feel the need to rush off and moonlight at St Elsewhere ... then St Elsewhere will make them an offer they can't refuse and then you end up losing your staff. [DR (MRI)/Manager]

Early career radiographers also recognised that their working patterns often left them little time for home life, making private healthcare opportunities more attractive:

The shift pattern was quite bad. I found myself working a lot of hours per week. I'd say it was probably averaging out towards 45–50, a lot of weekends. There wasn't much scope for progression and I'd say that's, from my experience that's across the board really. [DR/left]

Mid-career

Mid-career radiographers who often occupied higher pay bandings also outlined frustrations with a lack of opportunity to earn beyond their basic pay, resulting in some sonographers and reporting radiographers also working additional shifts with agencies.

The pay for the work we do is not very ... I get double the pay now where I work now. [Sonog/left]

I don't think it's as simple as money, although obviously that's the first thing that springs into your head is pay rises that are equal to how much the cost of living's going up. [Sonog/leaving]

A massive challenge is a lot of my advanced practitioners are working for private companies doing private reporting as a side-line for extra income ... With regards to leaving to agencies there's been an increase in that. [DR/Manager]

Many mid-career radiographers highlighted a disappointing lack of progression into advanced practice roles, likening it to 'dead man's shoes' where radiographers were trapped in a band 6 role for a number of years. They became gradually more cynical which went against their initial love of the profession:

the hospital I was at I was there for 12 years in that role [Band 6]. And I really just got to a stage where I felt there was lack of progression. There was no opportunities for me and I didn't get recognised for the knowledge and experience that I had. [DR (MRI/CT)/Left]

Several mid-career radiographers who had progressed to advanced practice roles also reported feeling 'stuck' at their grade with several years of their career still remaining. Their desire to remain in clinical practice, alongside limited opportunities for consultant practice appointments, were highlighted.

She [manager] said my hands are tied, you know, you're NHS, you've come in from a different trust, you go up one and across and then you have to work your way up to the top of the pay scale. [Mammo/leaving]

... it's the career progression side from [radiographer] reporting in particular that is a challenge ... Is there something else we can develop an individual into such as a clinical specialist? And so we can give them a higher banding for an extra level of responsibility within their role, rather than them thinking that the only next step on the ladder for them is consultant practice. [DR/manager]

Consultant radiographers also felt limited and unchallenged with lack of opportunity to fulfil all four pillars of their role (clinical, education, research and leadership). This resulted in them exploring opportunities for secondments within academia and commissioning organisations, thus reducing their NHS component over time.

I feel like I'm so far stuck down a hole as a consultant practitioner that I can't see a viable way upwards or outwards ... [Mammo/leaving]

Many mid-career radiographers were frustrated as they were unable to advance their careers by applying for positions in other locations due to family or elder caring responsibilities. Their frustrations were exacerbated when requests for flexible working to accommodate caring responsibilities were turned down.

when I applied for flexible working at the trust I had gone to, they said no. And at that point I just thought I'll just hand my notice in then. [Sonog/leaving]

I was given it [reduced hours] for a few months and then I was told right after six months you've got to go back to occupational health now if you want to carry on working two days. Or you can resign and reapply for your own job. [Mammo/left]

I'd applied to drop my days to three but they said, no, band 7 you've got to do four ... that was kind of the last straw really ... it was financially a huge drop in pay [leaving the NHS] but the fact that it's so much more flexible was a bonus. [TR/left]

Mid-career radiographers of all disciplines complained about limited opportunities for CPD underpinned by insufficient funding and staffing; planned CPD was often withdrawn at short notice. Managers also highlighted recent CPD funding restrictions, made more challenging by having to negotiate with Directors of Nursing for access to essential funding.

I don't think there's a lot of incentive for a lot of the younger sonographers because of the lack of money and lack of training; the workload and the lack of support. [Sonog/left]

I actually think the funding streams and the way they're currently working needs ... to come directly into radiology as opposed to one specific directorate within in a trust. Sometimes it feels like a battle. [DR/manager]

While some mid-career radiographers had left to take up or test out new careers, several believed that they may return to radiography in the future, and wished to maintain their Health and Care Professions Council (HCPC) registration.

It annoyed me that I would have to wait that long [for promotion] just because they say, oh, you need a minimum of 5 years for this or a minimum of 10 years for that ... that's what upset me the most and I thought to myself, well, you know what, I'm going to keep my registration but use my Masters and try something different. [TR/Left]

Late career

Later career radiographers cited a lack of flexible working options as a major catalyst for them leaving the NHS earlier than planned. Diagnostic radiographers frequently highlighted the physical demands of shift working, with mammographers and sonographers describing the long term effects of repetitive strain.

I think we're more prone to injury, we're more prone to slowing down, and I don't think the system allows for that at all. It doesn't accept the fact that you are getting older. [Sonog/leaving]

The physical side of it scares me. What will my shoulder be like at 68? [Sonog/leaving]

Staff in senior appointments, including managers and consultant radiographers, identified with the potential for 'burnout'; combinations of long working hours, workplace stress, feelings of isolation and in some cases a lack of support from colleagues.

... unfortunately a lot of consultant radiographers do head towards burnout and if you get to the point of burnout then there's obviously a high risk of you leaving that job. [DR/leaving]

when you work 55 hours a week and you're still doing that the following week and the following week and you just wear yourself out ... I'm mad carrying on like this. It's time to leave. If it means I need to work at the local private hospital for a couple of days a week, I'll do that. But I'm not going to carry on the way I am. It's too much. [Sonog/leaving]

you're quite alone being a consultant practitioner [Mammo/leaving]

... actually I don't really feel valued ... [Mammo/leaving]

One experienced manager had taken the decision to leave the profession to pursue a wider hospital management role as he/she no longer felt challenged in the role:

But you never got to do project stuff, you never got to step back and have time to actually deliver an improvement project ... the aspects of line management as well, managing at one stage up to 70 people under me. Trying to do appraisals for 15 people is quite tough as well while you're trying to do your clinical role. So I think I was in the loop of the same ... you end up just doing day to day firefighting and actually not doing anything strategic ... I got immune to doing my job, I could just do it with my eyes closed. And then I lost the desire in it. [DR/Left]

However physical demands and burnout were less prominent reasons for leaving Therapeutic Radiography; significant staffing shortages was more a contributory factor. One radiotherapy manager had been unable to retain staff intending to retire early despite adjustments to less physically challenging roles whilst exploiting their specific skillsets and maintaining their pay banding.

Many of our late career participants had requested flexible working to accommodate their changing needs, and they reiterated the need for 'wind down' roles (perhaps with a focus on passing on their extensive knowledge through training) as radiographers approach retirement.

I went to management, because I thought well 55, flexible retirement plan. You can't have it. Can I go part-time? No. Oh right, well can you just give me a couple of months career break then, just let me get myself sorted out? No. And it became the only option I had was leave. [DR/Left]

Discussion

The range of influencing factors on radiographer decisions to leave or remain in the NHS appear to change across the career span. A more nuanced understanding of these changing influences across career trajectories will support managers in their efforts to motivate staff, maintain morale and improve retention. However while the length of time in a career will have some impact on decisions to leave or stay, a compounding influence is generational differences, increasingly recognised as having impacts on the workplace.¹⁶ We purposively sampled representatives from early, mid and late career radiographers, and found evidence to support one of the premises of the Interim NHS People Plan that 'different generations want different things from their working lives' [p49].¹⁷

"Generational cohort theory" assumes that people with similar birth years have a shared history and life experiences, along with similar attitudes, beliefs, values and preferences.¹⁴ While caution should be applied when generalising based solely on birth date, it is nevertheless important to acknowledge that different generations have experienced life in a different way. For example, we have experienced technology very differently through the generations as demonstrated in Fig. 4.¹⁸

Four generational cohorts are likely to be working and learning together in radiology and radiotherapy departments. Each generation develops a collective personality that may exhibit particular attitudes toward authority and organisations, work expectations, and professional aspirations. These attitudes play a major role in people's experiences at work, and in staff morale and retention of staff.

In their study of generational differences in nursing, Jones et al.¹⁶ identified that Gen Y and Z nurses were more likely to view their career in the short term, with Gen Z unsure about devoting

their entire career to their chosen profession.¹⁶ Unlike Baby Boomers and Generation X, they may not feel tied to any one employer, role or profession, and will change employers if their needs are not met. They value flexibility to achieve a work-life balance, with Gen Z valuing professional and personal freedom above all.¹⁶

More importantly, their expectations, values and motivations may not be the same as the managers and supervisors of their work who are from different generations. Workforce stability will be positively influenced by managers with an understanding and respect for these differences; the generations' different approaches to working and learning should be 'harnessed and celebrated'.¹³ There are a number of parallels from the Jones et al. study¹⁶ with the testimonies and themes emerging from this study of radiographers.

Baby Boomers and Generation X (Fig. 4) were estimated in Jones et al.,'s 2015 study to make up approximately 65% of the NHS workforce¹⁶ although this proportion is reducing every year as more staff in these categories retire. Radiographers from these generational groups are commensurate with 'late career' radiographers in our study, and may occupy many of the senior leadership and management positions. The radiography profession will have changed immeasurably during the course of their careers. This generational cohort are said to be independent and self-reliant, motivated and hard-working, but may also be 'workaholics' who succumb to a poor work-life balance.¹³ Between 2011 and 2018 more than 56,000 people left NHS employment citing a poor work-life balance⁶; the loss of these experienced radiographers to early retirement is inevitable if they are unable to source a less demanding working pattern.

Others in the later stages of their career found that their clinical role no longer stretched them, and they sought opportunities to develop other aspects of their role such as education or research. The loss of this highly experienced generation of radiographers will compromise the support available for the mid-career 'Millennial' (Generation Y) radiographers. Estimated to make up about 35% of the NHS workforce in the Jones et al., 2015 study,¹⁶ Gen Y are noted to be passionate, highly committed and hard working. They often expect structured career progression, flexible job roles and plenty of feedback, guidance and support.^{13,16} In our study, frustration was expressed when this is lacking, jeopardising retention as Generation Y are more likely to change employer, role or even profession if these values are not met.¹⁶

Generation Z too expect to specialise and progress quickly, changing jobs to achieve this.¹⁹ The early career Gen Z radiographers in our study articulated frustrations with an apparent lack of career progression, stating that their skills and abilities were not recognised within a 'time served' mentality. Some made the decision to leave the NHS at this early stage of their career, moving into the private sector or other health-related roles. This also paralleled the nursing study which identified that Gen Y and Z nurses were more likely to view their career in the short term, with Gen Z unsure about devoting their entire career to their chosen profession.¹⁶ Unlike Baby Boomers and Generation X, they are a more transient workforce,¹⁰ valuing flexibility to achieve a work-life balance and professional and personal freedom.^{10,16} There are a number of parallels from several previous studies^{16,19,20} with the testimonies and themes emerging from this study of radiographers.

Over the next few years the radiography profession will lose the Baby Boomer generation to retirement, and will need to offer stimulating and flexible roles for experienced Generation X radiographers to minimise early retirements. Generation Y radiographers (Millennials) will soon become the greater proportion of the radiographer workforce, and they will need to implement

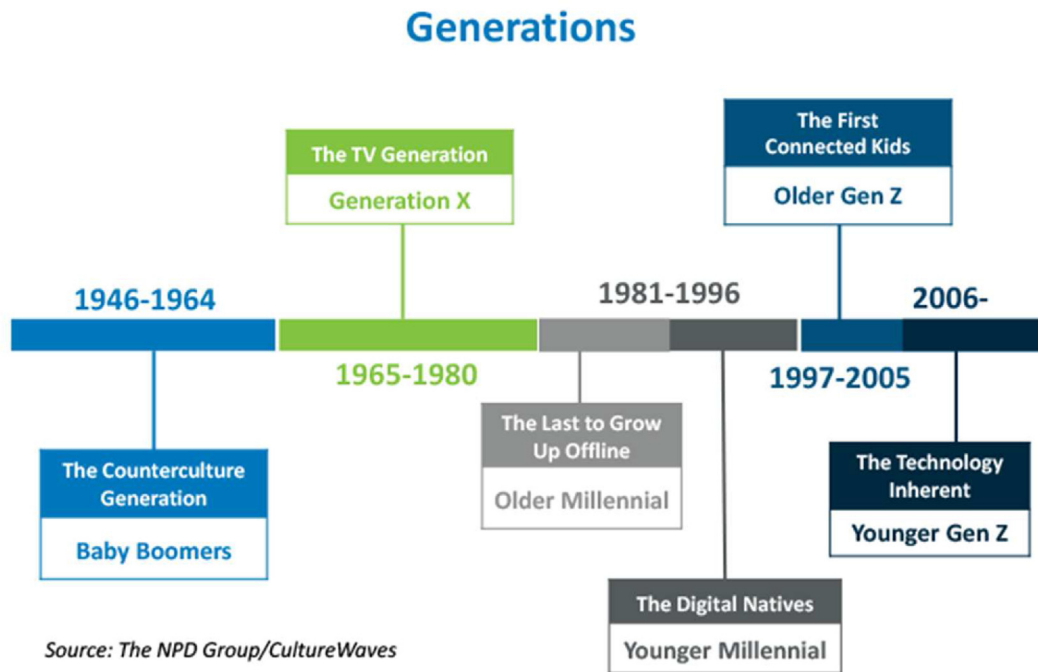


Figure 4. Generational map showing four generations: Baby Boomers; Generation X; Generation Y (Millennials) and Generation Z. In this model Gen Y and Z are sub-divided. NPD Group Inc.¹⁸

strategies to nurture and support the new Generation Z students and staff. Estimated to be less than 5% of the NHS workforce in Jones et al.’s 2015 study,¹⁶ this proportion is increasing rapidly as new entrants enter the workforce. While the most ideal strategies are not yet clear, radiography authors have begun to identify management approaches to working with Gen Z radiographers including effective onboarding, preceptorship and career development planning.^{13,19,21,22} This new generation may not see radiography as a career for life, but enabling them to try out new roles and even leave and return may be effective in maintaining workforce supply as recognised within the Interim NHS People Plan.¹⁷

From the analysis of interviews with the service managers, there was clear evidence of a range of innovative strategies being devised and implemented to address recruitment and retention challenges. These included new leadership roles to focus on staff CPD and retention, transparent competency frameworks between Bands 5 and 7, and widened responsibilities for experienced Band 6 radiographers. Rather than seeing local Trusts as competitors, several managers advocated cross organisational collaboration for CPD, bank working and integrated care system working aligned with national strategy.^{23,24}

The findings of this research highlight the importance of radiotherapy and imaging service managers gaining an understanding of generational cohort theory and how it applies to their early, mid and late career workforce. However we need to acknowledge that all radiographers are individuals and some, including many mature entrants to the profession, may not align neatly into the generational theoretical framework.²⁵ Strategies to enable flexibility and timely career progression at all career stages is fundamental to good morale. Creative strategies to provide opportunities for flexibility may include establishing cross system staff banks (rather than out-sourcing to agencies), and streamlining processes for staff to move efficiently between organisations could help.^{6,24} This might include radiographers working flexibly across different Trusts, working from home, retiring and returning, or occupying ‘wind down’ roles as advocated in the

Interim People Plan (2019).¹⁷ Collaboration between Trusts and across Imaging Networks will increase the potential for meaningful CPD opportunities that can be offered at lower costs.

Limitations of this study included low participation of Therapeutic Radiographer late career and manager respondents; early and mid-career representatives were prominent. Inevitably, the project attracted radiographers with strong feelings about retention, many of whom had experienced difficult and unresolved situations, raising the potential for recruitment bias. We aimed to purposively sample across a wide geographical area incorporating all parts of the United Kingdom, however those responding to the adverts were predominantly from England. Notably the participants represented a range of healthcare organisations, including large teaching hospitals, specialist centres, smaller ‘district’ hospitals and private healthcare centres. Similarly they were based in both urban, semi-rural and more remote locations, providing a wide range of working environments and contexts.

Conclusion

From the perspective of radiography managers and educators, recognising that the expectations, values and motivations of employees (or students) may not be the same as your own is an important step in tailoring interventions to improve retention. Different drivers for the decision to leave or remain in the NHS or the radiography profession are articulated by participants from each of the early, mid and late career categories; these differences appear to closely resemble the descriptors for the generational cohorts.

Acknowledging the dangers of stereo-typing and of misconceptions related to generational cohort theory, understanding generational differences can improve communication between generations. The generational differences between managers and their teams, and between early, mid and late career radiographers should be viewed in terms of the strengths that they may bring to the workplace, rather than the challenges that they may pose. This

generational timeline does not stand still and the learning is a continuous process; the next phase to enter the workplace is Gen Alpha which will certainly create new opportunities and challenges for the workplace.

Conflict of interest statement

None.

Acknowledgements

We wish to thank Health Education England for funding this research [award date 15.04.19] and the Society and College of Radiographers for their support in the research delivery. We are grateful to all of the radiographers and managers for giving their time to participate in the study, and to many others who expressed an interest in participating.

References

- College of Radiographers. *Diagnostic radiography workforce report*. <https://www.sor.org/learning-advice/professional-body-guidance-and-publications/documents-and-publications/reports-and-surveys/or-diagnostic-radiography-workforce-uk-census-2020>; 2020.
- College of Radiographers. *Radiotherapy radiographic workforce census*. <https://www.sor.org/learning-advice/professional-body-guidance-and-publications/documents-and-publications/reports-and-surveys/radiotherapy-radiographic-workforce-uk-census-1>; 2020.
- Guy Frija, Blažić Ivana, Frush Donald P, Hierath Monika, Kawooya Michael, Donoso-Bach Lluís, et al. How to improve access to medical imaging in low- and middle-income countries? *EclinicalMedicine* 2021;**38**:101034. <https://doi.org/10.1016/j.eclinm.2021.101034>.
- American Society of Radiologic Technologists. *Radiologic technologist staffing and workplace survey*. Retrieved July 25, 2021 from, <https://www.asrt.org/search?q=technologist%20staffing>; 2019.
- NHS. *The NHS long term plan*. <https://www.longtermplan.nhs.uk/>; 2019.
- NHS Improvement. *We are the NHS: people Plan 2020/21 – action for us all*. Available at: www.england.nhs.uk/ourpeople; 2020.
- NHS England. *NHS staff survey 2019 national results briefing*. 2020.
- Buchan J, Charlesworth A, Gershlick B, Seccombe I. *A critical moment: NHS staffing trends, retention and attrition*. The Health Foundation; 2019.
- Health Education England. *Cancer workforce plan phase 1 - delivering the cancer strategy to 2021*. 2017.
- Beech J, Bottery S, Charlesworth A, Evans H, Gershlick B, Hemmings N, et al. *Closing the Gap – Key areas for action on the health and care workforce. Report by the health foundation, king's Fund and nuffield health*. <https://www.kingsfund.org.uk/publications/closing-gap-health-care-workforce>; 2019.
- Nightingale J, Burton M, Appleyard R, Sevens T, Campbell S. Retention of radiographers: A qualitative exploration of factors influencing decisions to leave or remain within the NHS. *Radiography* 2021;**27**(3):795–802.
- Caulfield L. A literature review exploring the perceived impact, challenges and barriers of advanced and consultant practice in therapeutic radiography. *Radiography* 2021;**27**(3):950–5.
- Coggins J, St John-Matthews J, Gibbs V. Welcoming generation Z: understanding multi-generational working and learning within radiography. In: *Imaging and therapy practice*. Society and College of Radiographers; 2019.
- Edmunds J, Turner B. Global generations: social change in the twentieth century. *Br J Sociol* 2005;**56**:559–77.
- Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013;**13**:117.
- Jones K, Warren A, Davies A. *Mind the Gap. Exploring the needs of early career nurses and midwives in the workplace. Summary report from Birmingham and Solihull local education and training Council every student counts project*. 2015.
- National Health Service. *Interim NHS people plan*. https://www.longtermplan.nhs.uk/wp-content/uploads/2019/05/Interim-NHS-People-Plan_June2019.pdf; 2019.
- NPD Group Inc. *Guide to gen Z: debunking the myths of our youngest generation*. <https://www.npd.com/wp-content/uploads/2021/06/guide-to-gen-z.pdf>; 2018. Accessed 20.07.21.
- Williamson K, Mundy LA. Graduate radiographers' expectations for role development: the potential impact of misalignment of expectation and valence on staff retention and service provision. *Radiography* 2010;**16**:40–e47.
- Lehmann P, Richli Meystre N, Mamboury N. Factors for lifelong job retention among Swiss radiographers. *Radiography* 2015;**21**:181–7.
- Tay YX, Wei YM, Aw LP, Lai C. The strategy to develop newly joined radiographers in a COVID-19 world: a curated orientation programme. *Commentary. J Med Imag Radiat Sci* 2021;**52**(3):345–9.
- Harvey-Lloyd J, Morris J. Supporting newly qualified diagnostic radiographers: are we getting it right? *Int J Pract-Based Learn Health Social Care* 2020;**8**(2):57–67.
- Richards M. *Diagnostics: recovery and renewal*. Independent Review of Diagnostic Services for NHS England; 2020. <https://www.england.nhs.uk/wp-content/uploads/2020/10/BM2025Pu-item-5-diagnostics-recovery-and-renewal.pdf>. Accessed 23.10.2020.
- NHS England and NHS Improvement. *Transforming imaging services in England: a national strategy for imaging networks*. NHS Improvement publication code: CG 51/19, <https://improvement.nhs.uk/resources/transforming-imaging-services-in-england-a-national-strategy-for-imaging-networks/>; 2019.
- Mawson JA, Miller PK, Booth L. Stress, a reflective self and an internal locus of control: on the everyday clinical placement experiences of older undergraduate radiographers in the UK. *Radiography* 2021;**28**(1):55–60.