

Partnering to expand diagnostic services and drive patient and staff outcomes

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How Community Diagnostic Centres can help address the existing radiology workforce crisis

The demand for imaging services in the UK has never been higher. Imaging is being used earlier and more extensively in the diagnostic pathway and is central to a growing number of screening programmes and health checks.

And yet, the UK imaging workforce shortage is well known. In fact, according to the latest census from the Royal College of Radiologists¹, the shortages are increasing year on year, with only 47% of Trusts being able to provide an effective and sustainable 24-hour service. Without more consultants and radiographers in training, investment in new models of care and better staff retention and recruitment, by 2025 the UK's radiologist shortfall will hit 44% (3,600 consultants short of real terms demand).

In this article, Penny Owens, Radiography Advisor, Rutherford Diagnostics and Jill McKenna, Chief AHP and Head of Imaging, Rutherford Health, Stephen McMillan, Solutions Lead for Philips UK&I and Jeevan Gunaratnam, Director of Independent Sector and Community Diagnostics at Philips discuss the worsening shortage, its manifold reasons and explore how the UK's planned introduction of Community Diagnostic Centres could help to address the radiology workforce shortage by creating environments that offer a positive, rewarding experience to both professionals and patients.

- Demand for complex CT and MRI scans is growing at three times the speed of the radiologist workforce
- This year, approximately 200 doctors will qualify as radiology consultants – not enough to fill even half of ongoing vacancies
- The UK radiologist workforce is now 33% short-staffed – without more consultants in training and better staff retention and recruitment, the shortfall will hit 44% by 2025.

Source: Clinical radiology UK workforce census 2020 report, published April 2021



A problem of supply and demand: Increased utilisation of imaging yet a lack of access to training

Both Diagnostic Radiographers by training and by heart, Penny Owens and Jill McKenna can speak from experience both on the ground and in pathway management. Penny Owens believes that part of the cause of the shortfall is an imbalance in supply and demand:

“We have got used to there always being a shortfall in the radiology workforce. Even before the acceleration in imaging demand, we haven’t had enough radiologists and radiographers. And yet we’re seeing a huge increase in imaging across all pathways. This has only been exacerbated by COVID-19.

The shortfall has lasted over ten years, with demand rising rapidly over the past five years or more², driven by increases in hospital attendances, more direct requests for tests from general practitioners (GPs) and broader clinical indications for existing technologies, such as CT scanning. And then the pandemic hit, reducing access to imaging and creating a significant backlog.”

Penny Owens continues: “Even before the pandemic, reports indicated that 250,000 people in the UK would wait over 30 days for the results of their imaging scan^{2,3}. So while demand increased, there hasn’t been the ability to supply that demand. The UK hasn’t had the resources to train radiologists and radiographers, in the numbers needed. Radiology is a popular speciality but the training positions and clinical placements haven’t been available in sufficient numbers and the NHS now considers them ‘shortage occupations’. There aren’t enough experienced radiologists to train them in the numbers which are required. Community Diagnostic Centres have the potential to offer an innovative means of providing this much needed training, by including access to existing Radiology academies, virtually, should radiologists and reporting radiographers be reporting within the hubs.”



An intensely demanding role: Identifying the challenges a career in diagnostic imaging presents

With a lack of trainees coming through the pipeline, radiologists and radiographers are a finite resource. And yet the career also presents its own challenges.

Jill McKenna believes that a traditionally solitary and intense job has become even more demanding in line with our ‘always on’ culture:

“Our full-on, non-stop culture coupled with an ethos of medicine and litigation has created intense pressure for radiologists and radiographers. Radiologists and radiographers work exceptionally long hours, many of these being out of hours and burnout is high. The more we advance, the more we demand. It’s an intensely challenging profession to be in but also it’s incredibly important, rewarding, and vital to patient outcomes”.

² Radiology GIRFT Programme National Specialty Report, November 2020 by Dr Katharine Halliday, Clinical Lead Dr Giles Maskell, Senior Clinical Advisor Lucy Beeley and Elaine Quick, Radiology Advisors <https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/11/GIRFT-radiology-report.pdf>

³ Clinical radiology UK workforce census 2020 report, Royal College of Radiologists <https://www.rcr.ac.uk/census-report>

How the UK's planned Community Diagnostic Centres might improve job satisfaction and turn the tide of the workforce crisis

In line with the NHS Long Term Plan and the Richards' Report - Diagnostics: Recovery and Renewal⁴, Rutherford Diagnostics, together with Philips as their technology partner, is establishing a network of new diagnostic facilities across the UK. The five planned centres will provide diagnostic services to the NHS and to private patients, with each centre providing a variety of services including MRI, CT, Ultrasound, X-Ray and other diagnostic imaging services. In September 2021, the Rutherford Diagnostic Centre Somerset was officially opened by Professor Sir Mike Richards CBE. The centre in Taunton, is the first Community Diagnostic Centre of its kind in England – run by Rutherford Diagnostics Limited, a subsidiary of Rutherford Health PLC in partnership with Somerset NHS Foundation Trust.

These new types of shared value partnerships are leading to the creation of Community Diagnostic Centres that offer opportunities to improve radiologist and radiographer workforce satisfaction on multiple levels.

Stephen McMillan explains: "Community Diagnostic Centres have the ability to transform the current model of care delivery by providing access to first time right diagnostic and treatment services closer to patient settings. At Philips, we see our role in this partnership as incorporating technology as an enabler; making innovation accessible to both patients and professionals alike.

Being able to give radiologists and radiographers the opportunity to work in a new and innovative environment with access to state of the art technology and equipment, such as at the new centre in Somerset, is key to improving job satisfaction."

Penny Owens concurs: "Community Diagnostic Centres offer a future-fit and collaborative work environment. Radiographers and radiologists will get to work with world-class imaging equipment. The advent of diagnostic hubs affords the opportunity for offsite reporting activity within a clinically non acute environment without interruptions. The ability to work with cutting edge technology delivers an exciting offer to radiologists and reporting radiographers, which supports partner NHS Trusts with recruitment and retention".



The Rutherford Diagnostic Centre Somerset



In addition to improving satisfaction, the new technology also has the ability to improve workflow and utilisation rates, helping to reduce the work pressure and fatigue many radiologists and reporting radiographers traditionally face.

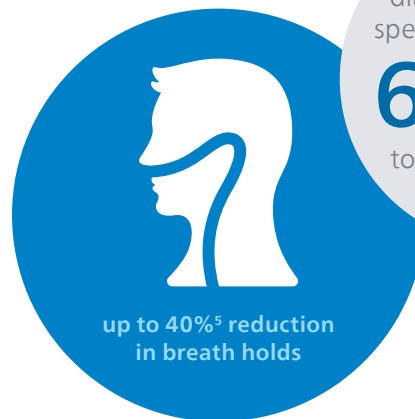
Stephen McMillan explains: “not only do radiographers and radiologists enjoy working with the new technologies, they also tell us they appreciate the efficiencies they bring. For example, Philips MRI Compressed SENSE is incorporated into their MRIs to help reduce patient anxiety while reducing time to scan. Results show an up to 40%⁵ reduction in breath holds, giving diagnostic imaging specialists on average 67%⁶ more time to spend with their patients. Not only does the technology improve patient outcomes, the shorter scan times achieved with Compressed SENSE also relieve the stress of a tight work schedule.”

In addition to increasing satisfaction and reducing stress, Jill McKenna, also highlights the fact that Community Diagnostic Centres mark an opportunity to provide training in a positive learning environment:

“Community Diagnostic Centres are much less frenetic environments and they are environments in which we can extend training placements. This gives us an opportunity to start slowly and on a small scale, to address the training shortage by providing training and extending practice placements for student and apprentice radiographers. There is also the potential for Advanced Practice radiographic training for radiographers within the setting. At the Rutherford Diagnostic Centre Somerset in Taunton, we are increasing that footprint, working with the NHS to develop a specific diagnostic imaging training method.”

And, of course, there is also the opportunity to build dedicated training facilities alongside the Community Diagnostic Centres. The Rutherford Diagnostic Centre Somerset will have its own training academy which will provide hands-on and theoretical learning in a calm, inspiring environment and has the potential to upskill and train the workforce of the future.

Philips MRI Compressed SENSE



giving diagnostic imaging specialists on average **67% more time** to spend with their patients

Penny Owens highlights the attractive scope for research that Community Diagnostic Centres represent: “Community Diagnostic Centres offer the space and scope for radiologists and radiographers to access evidence based practice and take part in research of a kind that current hospitals, due to the demands of clinical imaging, simply don’t have the capacity for. At the Rutherford Diagnostic Centre Somerset, there will be access to Spectral CT, a computed tomography technique using the world’s first spectral detector-based CT, the Philips IQon Spectral CT.”

Jill McKenna also hopes the roll out of Community Diagnostic Centres will stimulate the development of pathway practitioners, trained to navigate through Community Diagnostic Centres based on a particular condition, providing more scope for radiologists and mirroring recent cardiology innovation.

⁵ Philips internal data drawn from customer case-studies, compared to Philips scans without Compressed SENSE. Results from case studies are not predictive. Results in other cases may vary

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Exploring additional solutions to stem the radiologist shortfall, improving inconsistent workflows and quality

In addition to the opportunity presented by these imminent Community Diagnostic Centres, a combination of small incremental changes and recombinant innovation provides an additional glimmer of hope for the imaging workforce.

Penny Owens cites the example of a Public Health England mammography pilot⁷ where altering the regulations for mobile screenings to enable mammographers to supervise via mobile phone contact and, where possible, a remote interface to Picture Archiving and Communication Systems (PACS), is bringing new efficiencies to breast screening service.

Stephen McMillan also highlights the potential for additional advanced technologies such as Philips PerformanceBridge to further improve radiology workflow and radiologist satisfaction. He explains:

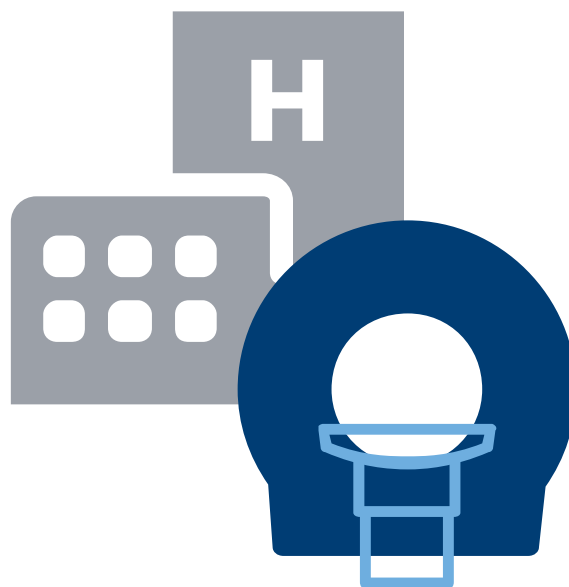
“Philips PerformanceBridge is a secure, web-based service that highlights the utilisation, service and performance of imaging systems so radiologists can dynamically change and improve patient flows. This brings efficiency gains but also enables radiologists to better see what processes are working well and which can be improved.”

And on an altogether larger scale and a significant step-change in the available support for radiologists, there is the Philips Radiology Operations Command Centre (ROCC). One of a pipeline of eagerly anticipated diagnostic imaging innovations designed to meet the needs and address the pain points of radiologists and radiographers, ROCC enables virtualised imaging operations via a private, secure, and auditable telepresence platform. Able to integrate with existing technologies, ROCC makes it possible to add secure, digital, virtual scanner access to existing imaging installs across multiple systems and sites, connecting imaging experts at a central command centre with radiologists, radiographers and onsite staff for real-time, over-the-shoulder collaboration and support.

Jeevan Gunaratnam explains how he believes ROCC could help address radiology shortages as well as workflow and quality challenges by combining technology with an appreciation of (and care for the experiences of) the people behind the machines. He ventures:



“ROCC helps address the challenges many radiographers face by providing virtual remote access and workflow capabilities in a secure environment. Integrated solutions linking MR and CT to the command centre will help increase the value and productivity of lead radiographers, minimise image quality issues, accelerate training, and reduce travel time between sites for updating protocols. It also helps expand access to imaging across an enterprise and enables multiple use cases such as virtual imaging assistance, virtual on-demand training, and remote adjustment of imaging protocols for greater standardisation.”





Jill McKenna and Penny Owens are both excited for this new innovation and others in the pipeline, seeing it as key to distributing new and evolving expertise across networks.

And lastly, while initially small in number, the introduction of Community Diagnostic Centres themselves marks an important step change in the prioritisation of diagnostic imaging in the UK.

Jill McKenna explains: "Innovations like ROCC – a further extension in imagining the possibilities of out of hospital care – and PerformanceBridge show great potential in helping to enhance workflow efficiency as well as fulfilling training needs. With a remote collaboration solution, you might have radiologists and radiographers at one site helping to manage workload at other sites, while a new radiologist doing a problematic MR can get 24/7 'phone a friend' support from radiology experts at a central site. The benefits of such collaborations are huge, including on the stress levels and motivation of the radiologists themselves. Add to that the benefits of leveraging these types of technologies to centralise training, connecting people virtually to watch multiple exams on the same day from the central site, and it becomes clear that information sharing has a lot to offer both in terms of quality and workforce morale."

Stephen McMillan explains: "Radiology is finally getting the recognition it deserves in terms of the vital contribution it makes to our healthcare system. The Richards Report⁸ is unequivocal about the need for radical investment in diagnostic imaging facilities, equipment and workforce and this call is supported by the Radiology GIRFT Programme National Specialty Report⁹."

As Jill McKenna concludes: "New innovative out of hospital models of care represent an opportunity for our finite supply of radiologists and radiographers to return to what they entered the profession to do – care for people. We're all hoping that this new focus on radiology and the advancements in technology will enable us to go back in time and spend more time with our patients. More time to care, that's why we're here."

⁸ Diagnostics: Recovery and Renewal – Report of the Independent Review of Diagnostic Services for NHS England, Professor Sir Mike Richards 27 November 2020, <https://www.england.nhs.uk/publication/diagnostics-recovery-and-renewal-report-of-the-independent-review-of-diagnostic-services-for-nhs-england/>

⁹ Radiology GIRFT Programme National Specialty Report, Dr Katharine Halliday, Clinical Lead Dr Giles Maskell, Senior Clinical Advisor Lucy Beeley and Elaine Quick, Radiology Advisors, November 2020, <https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/11/GIRFT-radiology-report.pdf>

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<https://www.philips.co.uk/healthcare/resources/landing/community-diagnostic-centres>



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