



North West England Imaging Workforce Strategy

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1 Strategy Overview



Vision

To develop and nurture a skilled workforce that will provide the current and future imaging needs of patients across the North West of England, embracing new technology and models of high quality service delivery.



Mission

To be an enabler of change and action on which the North West Integrated Care Systems can build. Supporting the delivery of recommendations in:

- the NHS Long Term Plan,
- The NHS People Plan 2020/21,
- Transforming Imaging Services in England: A National Strategy for Imaging Networks, NHS England and Improvement, November 2019
- Diagnostics: Recovery and Renewal: Professor Sir Mike Richards, October 2020
- The GIRFT Radiology report
- The National Cancer Workforce plan

For the benefit of staff and patients working and living across North West.



Aims

- To place the needs of the North West population at the centre of all our thinking, planning and action.
 - Promote collaborative working between the imaging networks in Cheshire and Merseyside, Greater Manchester and Lancashire and South Cumbria to support transformational workforce changes for the benefit of all patients in the region.
 - Ensure we have a sustainable supply of medical and non- medical imaging workforce to deliver the imaging services required with safe and effective care for patients.
 - Ensure that our imaging workforce is appropriately trained for the service of the future with collaboration between service providers and educators.
 - Grow our workforce by inspiring NW populations to work in imaging services and providing attractive employment offers to optimise retention.
 - Promote equality and diversity in our imaging workforce to stimulate growth and to be reflective of the populations it serves.
 - Support the imaging workforce to embrace innovation and new ways of working including better use of technology, introducing new roles, and building networks to deliver 21st century care.
 - Enhance and optimise skill mix to develop a flexible and effective imaging workforce.
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2 Introduction

The Diagnostics Recovery Programme identifies workforce planning as one of the key objectives for the North West (NW) Imaging Cell. Workforce is both a key enabler and barrier to service transformation and effective planning will involve significant engagement and connected working with the imaging communities across the three Integrated Care Systems (ICS), Cheshire & Merseyside (C&M), Greater Manchester (GM) and Lancashire & South Cumbria (L&SC).

The National Strategy for Imaging Networks ¹ published in November 2019 recommended the formation of diagnostic imaging networks to maximise existing capacity, improve access to specialist opinion and benefit from efficiencies and economies of scale by 2023.

Currently, Cheshire & Merseyside (C&M) is the only established imaging network in the region. Greater Manchester and Lancashire South Cumbria are in the process of structuring their imaging networks. This regional wide workforce strategy will be beneficial to these emerging networks and will provide the framework for each to develop and implement their local workforce plans.

In the North West of England (NW), there are 24 NHS trusts and foundation trusts providing imaging services, often with significant variances in capacity and demand and using operating models that require investment in IT, imaging equipment and workforce.

In addition to the role it has played in patient care during the covid pandemic, continual technological advancement in imaging equipment and changing clinical practice imaging as a diagnostic tool has been put in a far more prominent place than in the past. This has been recognised, particularly in the review undertaken by Professor Sir Mike Richards, Diagnostics: Recovery and Renewal published in October 2020.

Previously NHS imaging workforce planning has not reflected the necessary growth and skill requirements to keep up with the increasing demands on the range of imaging services available. In addition, this reliance on imaging has resulted in a requirement for flexibility of roles and new way of working. Keeping pace with the demands for training and education to support these developments has been challenging.

The Covid-19 pandemic has highlighted a serious shortfall in imaging resources, including equipment and staffing. There has been recognition of equipment shortages by recent government investment, but currently this is not supported by additional staffing investment. This paper will help to identify imaging workforce requirements for the short, medium and long term and instil an ongoing focus on robust workforce planning for imaging in the North West.

3 Strategic Alignment

Robust workforce planning and regular review of strategy is crucial to ensure that sustainable imaging services can be provided in the future. A wide range of imaging focused health professionals will be needed to provide a high quality, efficient and responsive imaging service.

Professor Sir Mike Richards was asked to review diagnostic services by Sir Simon Stevens prior to the Covid pandemic. The report was delayed in order to take into account the diagnostic service issues that the pandemic had unearthed.

¹ Transforming Imaging services in England: a national strategy for imaging networks: NHS England and NHS Improvement, November 2019
https://webarchive.nationalarchives.gov.uk/20210401201200/https://improvement.nhs.uk/documents/6119/Transforming_imaging_services.pdf



As highlighted in the Richards report², a strategy is required to grow and develop the workforce to meet the changing requirements by supporting:

- the projected 100% expansion in CT scanning over the next 5 years
- major expansion of the imaging workforce – an additional 2,000 radiologists and 4,000 radiographers, to include 500 reporting radiographers, 2,500 assistant practitioners and 220 medical physicists
- the provision of additional training places radiologists and radiographers.
- the increase in advanced practitioner radiographer roles, to achieve the reporting of a minimum of 50% of plain x-rays.
- the expansion of assistant practitioner roles to take on work currently undertaken by radiographers
- the development of Community Diagnostic Hubs (CDH's) to separate acute and elective diagnostics
- “one-stop diagnostic shops” to avoid multiple attendances by patients
- workforce expansion with skill mix development and modelling of new roles including those of support workers

The Richards report also identified the benefits of imaging networks in delivering high quality, efficient patient centred care, in particular:

- Workforce planning
- Facilitation of staff working across NHS boundaries (passports)
- Joint training programmes

Additional imaging workforce requirements

Imaging workforce	Additional requirement
Radiologists	2,000
Advanced practitioner/reporting radiographers	500
Radiographers	3,500
Assistant practitioners	2,500
Admin and support staff	2,670
Physicists	220

From the above national steer, we will calculate what that means at a regional level for the implementation plans.

The national Getting It Right First Time (GIRFT) programme was designed to improve the treatment and care of patients by reviewing health services.

A review of radiology services in England was undertaken by GIRFT team of radiologists and radiology managers prior to the pandemic. The report by was published in 2020. The review combined wide-ranging data analysis using the National Imaging Data Collection (NIDC) submissions from all trusts with the input and professional knowledge of senior clinicians and managers to examine how things are currently being done and how they could be improved with a focus on eliminating unwarranted variation.

² Diagnostics: Recovery and Renewal: Professor Sir Mike Richards CBE, Chair – Independent Review of Diagnostic Services for NHS England, October 2020 <https://www.england.nhs.uk/wp-content/uploads/2020/10/BM2025Pu-item-5-diagnostics-recovery-and-renewal.pdf>



Several recommendations in the GIRFT Programme National Speciality Report on Radiology³ relate to the imaging workforce:

- All radiology services should review their workforce requirements to ensure their establishment is correct.
- All services should maximise recruitment and retention and all staff should be supported to work to the top of their licence.
- The RCR should produce standardised definitions for radiologist activities for job planning. This should also include expected volumes of activity.
- The RCR and SoR should produce standardised competencies for reporting, so that once a trainee/radiographer has proved their skills, they are permitted to report independently, wherever they work.
- Supporting the delivery of an expanded workforce by extending routes into the ~~profession~~ attracting more undergraduates, improving support and changing perceptions.

The strategy also supports the implementation of the 'NHS People Plan 2020/21: 'actions for us all', which sets out actions to support transformation across the whole NHS. It focuses on how we must all continue to look after each other and foster a culture of inclusion and belonging, as well as action to grow our workforce, train our people, and work together differently to deliver patient care. The key themes in the plan are:

- Health and wellbeing
- New ways of delivering care
- Recruitment, retention and growing the workforce
- Flexible working
- Culture and leadership
- Diversity and inclusion

The strategy focusses on the professions involved in delivering imaging services:

- Radiologists
- Diagnostic Radiographers and Sonographers
- Assistant Practitioner Radiographers
- Radiology Support Workers

Also, for consideration:

- Medical Physicists
- Radiology Nurses
- PACS/RIS teams
- Clerical and administration staff

³ GIRFT Programme National Speciality Report on Radiology: NHS Getting It Right First Time, November 2020

<https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/11/GIRFT-radiology-report.pdf>



4 Purpose of the strategy

The purpose of this workforce strategy is to bring together current thinking and best practice to ensure a sustainable, skilled, healthy, flexible and productive imaging workforce with the capacity and capability to meet the current and future demand for imaging services. It will guide on how to approach and implement new ways of working to support imaging networks working with Integrated Care Systems (ICS) and regional networks.

Following approval and subsequent adoption of the strategy, a workforce implementation plan for the North West will be developed. This will provide a framework for imaging networks to develop their own workforce plans by offering a range of initiatives/ solutions/ interventions that can be developed and implemented for the imaging workforce in Cheshire & Merseyside (C&M), Greater Manchester (GM) and Lancashire & South Cumbria (L&SC), taking into account the neighbourhoods and the populations they serve.

The strategy will require regular review to ensure that it keeps pace with emerging service needs, such as the evolving Community Diagnostic Hubs (CDH) programme, technological advancements and the impact of developing imaging networks.

4.1 Community Diagnostic Hubs

At the time of writing this strategy, workforce planning for CDH's is in its infancy. Solutions will be dependent on design and services being offered and the staffing models will vary according to locality, with the potential of working with the independent sector to deliver a blended workforce model. The minimum imaging provision will include plain film, CT, MRI and ultrasound, working hours according to need, probably extending to 12/7 within a short space of time. This will present further challenges in delivering extended and additional staffing requirements whilst ensuring stability in the provision of imaging in acute services. However, it will also present opportunities for the introduction of new roles, cross-site working and enhanced career options. This has been taken into account and the workforce strategy will complement CDH plans.

5 How the strategy was developed

C&M, GM and L&SC each have their own respective imaging workforce groups to bring together all key stakeholders to agree local priorities. This strategy builds on and unifies work already underway in C&M, GM and L&SC and identifies areas to be developed.

The National Imaging Dataset (NIDC) has been used as the data source for insights on the current state of the radiographic workforce across the North West. These insights are being modelled to inform future state and intervention needs.

To inform the strategy, a North West Diagnostic Radiography Workforce Action Group (NWDRAD WAG) has been formed. Membership includes:

- Radiology Service Managers from C&M, GM and L&SC
- Representatives of the Higher Education Institutes (HEIs) providing education of the imaging workforce in the North West of England
- Health Education England (HEE) Workforce Planners and Leads
- HEE Health Education Transformation Managers



In order to ensure that the strategy aligns with national intentions, to share good practice and to avoid duplication, links have also been developed with:

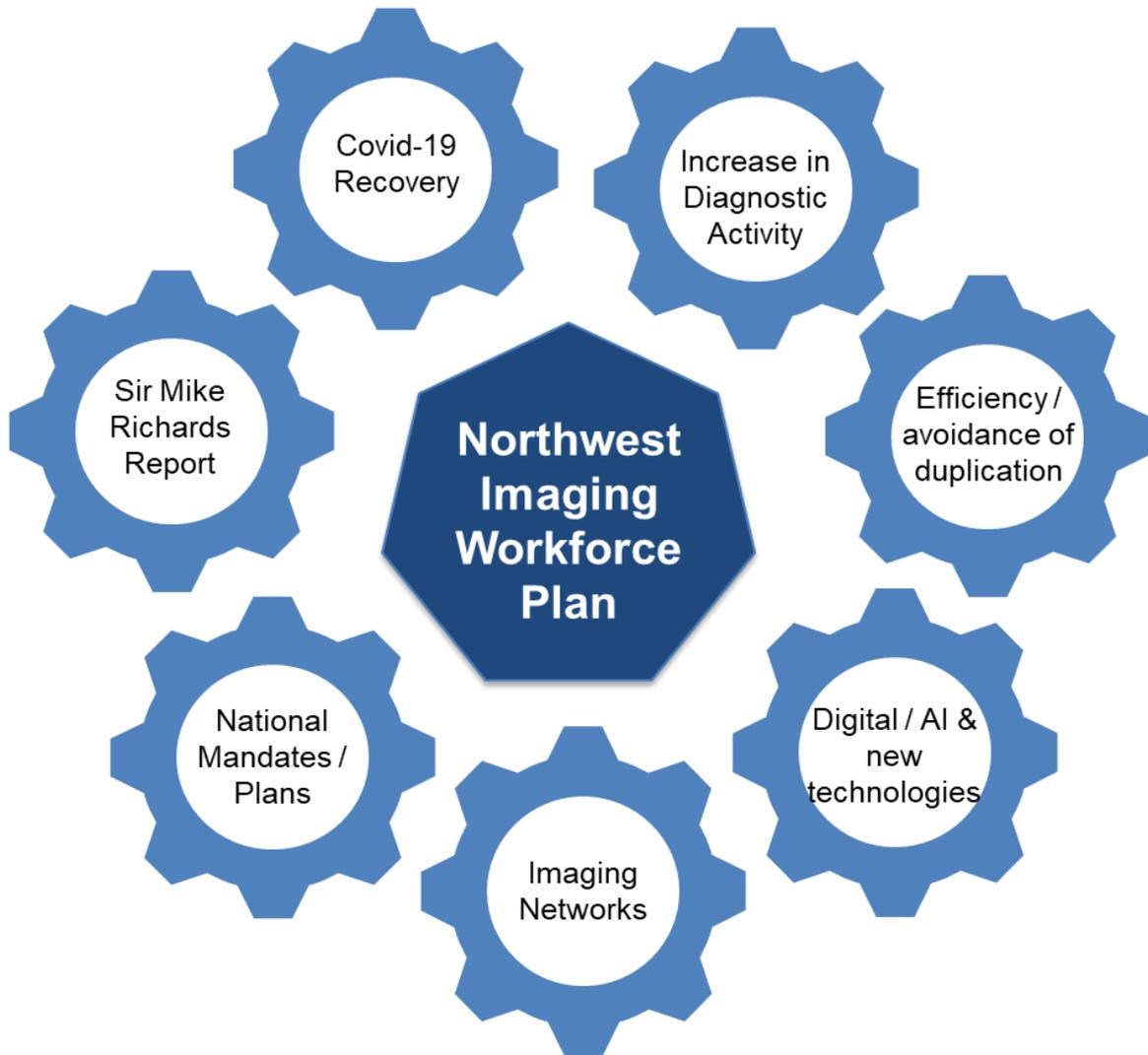
- Colleagues in other regions carrying out similar work
- The Society and College of Radiographers
- Radiology Clinical leads in NW Imaging Cell
- NW Medical Physicists group
- AHP Faculty Leads
- NHS England and Improvement (NHSE&I) National Imaging Team
- HEE Workforce and Information Planning and Intelligence
- NHSE&I Retention Manager and Reducing Pre-registration Attrition and Improving Retention (RePAIR) Programme Lead
- HEE Global AHP and Global Fellows Project Leads
- HEE NW Bringing Back Staff and Reserve Programme Lead.

In addition, a variety of surveys involving the radiology community were carried out to obtain subjective specific data not included in the NIDC submissions and indications of which areas should be prioritised in the implementation plans going forward.

A task and finish group was formed to consider what competencies a diagnostic radiographer will require in the future and how training and education will need to be adjusted to provide these.



6 Strategic drivers



7 Imaging workforce priority areas

The strategy aligns to the HEE STAR model⁴ provides a framework for recommendations for each of the key professional groups within Imaging, focussing on:

- Leadership and management
- Ways to increase supply
- Up skilling current staff
- New roles
- New ways of working

In addition, there is a “State of the North West Imaging Workforce” paper which accompanies this strategy. An analysis of two years of data submitted from services via the National Imaging Data Collection (NIDC) has been undertaken and key trends and headlines have been extracted which inform these recommendations. This analysis will be socialised and will be available to support the development of system level implementation plans.

7.1 Radiologists

National aims (ref: Sir Mike Richards report)	To provide an additional 2,000 radiologists to undertake duties including reporting to cope with the anticipated additional examination demand over the next 5 years.
North West current state	<ul style="list-style-type: none"> • Variance across ICS /Organisations • 2% observed increase in substantive staff. • 29% increase in leavers • Significant volume of overtime work • Between the two collections there has been a reduction in insourcing activity (39%) and an increase in outsourcing (21%).
Leadership and management	<ul style="list-style-type: none"> • Encourage leadership and managerial development for radiologists and trainees to include experience within the imaging department and the wider trust e.g. human resources training, shadowing the clinical director, attendance at trust meetings such as governance, performance and finance, as well as external meetings involving other imaging stakeholders, e.g. commissioners, and equipment suppliers. • Encourage radiology trainees to undertake the NHS Leadership Healthcare Leadership Model (NHS Leadership Academy), linked to Royal College of Radiologists curriculum. Support trainees to undertake service improvement projects. • Improve succession planning to ensure preparedness for future managerial and clinical leadership roles.

⁴ HEE Star: Accelerating Workforce Redesign, Health Education England <https://heestar.e-lfh.org.uk/>



<p>Ways to increase supply</p>	<ul style="list-style-type: none"> • Explore and communicate the details of schemes that support international recruitment, e.g. Global Fellows Programme. Gain an understanding of learning across the region to share experiences on international recruitment. • Understand and enhance the flow out of training and into the workforce. • Share learning on introduction of non-consultant posts, e.g. speciality doctor. • Support business case development for funding for expansion of radiology trainee posts. • Review current work patterns within the networks that support 24/7 and 12/7 services. Share details of work patterns that provide capacity matched to demand, minimal requirement for waiting list initiatives and offer the best work life balance for staff with flexible working practices. • Consider the use of e-rostering to support 24/7 and 12/7 working.
<p>Up skilling current staff – deliver and grow</p>	<ul style="list-style-type: none"> • Utilise a broad range of methods to understand staff motivation and aspirations of the current radiologist workforce, including trainees to support workforce planning and appetite for working in specialist areas.
<p>New roles</p>	<ul style="list-style-type: none"> • Encourage participation in network/ regional clinical pathway transformation projects to ensure best practice and reduce unwarranted variation. • Explore future development of a clinical ‘diagnostician’ role who would interpret a range of test results, communication of test results to patients and signposting to treatment. This new role could contribute to streamlining of patient pathways in CDH’s. NB this is different to the B4 role being developed nationally for people who would perform a range of diagnostic tests.
<p>New ways of working</p>	<ul style="list-style-type: none"> • Promote home reporting for in-hours and out of hours working to support work-life balance and retention of radiologists e.g. post maternity leave, childcare and extend retirement age. • Enablement of cross-site working for on-site imaging e.g. ultrasound and fluoroscopy and interventional procedures by continuing to explore the use of digital passporting, working with national Digital Staff Passport (DSP) Lead. • Progress the establishment of a Memorandum of Understanding (MoU) between organisations to allow virtual reporting to support development of insourcing reporting models, taking appropriate advice to ensure that due legal process is being



	<p>followed.</p> <ul style="list-style-type: none"> • Develop collaborative radiology reporting hubs in order to facilitate insourcing and specialist reporting across the network, improve robustness and continuity of service and reduce spend on outsourcing. • Consider establishing an out-of-hours trainee reporting hub in each network, following the C&M model. • Develop appropriate models for network in and out of hours interventional radiology services. • Consider using a network approach to recruitment of consultant radiologists to: <ul style="list-style-type: none"> • facilitate joint posts in the networks • support trusts that have difficulty recruiting • ensure availability of the full range of specialist radiology opinion for all patients • retain radiologists • Encourage and support radiologists to participate in evaluation of Artificial Intelligence (AI) tools to provide recommendations on the benefits of these products to assist with training and improve efficiency of working. • Build a future facing culture and willingness to change, to enable flexibility of careers in the future to work with AI and other technological advancements e.g. genomics.
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7.2 Diagnostic Radiographers and Sonographers (including Advanced Practitioners)

<p>National aims (ref: Sir Mike Richards report)</p>	<p>To provide an additional 4,000 radiographers, including 500 advanced practitioners/ reporting radiographers to meet the demand of image acquisition and to report a minimum of 50% of plain films. This will support the release of radiologists to undertake reporting of complex imaging, interventional procedures and MDT commitments</p>
<p>North West current state</p>	<ul style="list-style-type: none"> • 6% observed increase in Radiographer vacancies. • Significant volume of overtime and agency work
	<ul style="list-style-type: none"> • Anecdotal decrease in Advanced Practitioner activity due to the shortage of image acquisition Radiographers. • Variance between ICS/Organisations.
	<ul style="list-style-type: none"> • 16% observed increase in Sonographers vacancies. • Large volume of agency work due to staff shortages.



<p>Leadership and management</p>	<p>The Radiographer community will work collaboratively to seek solutions to workforce challenges.</p> <ul style="list-style-type: none"> • Encourage leadership and managerial development at all radiography levels to include experience within the imaging department and the wider trust e.g. HR training, shadowing, attendance at trust meetings such as governance, performance and finance as well as external meetings involving other imaging stakeholders. • Promote an awareness of managerial challenges that impact on the quality of patient care and staff wellbeing and where imaging fits in the patient pathway. • Improve succession planning to ensure preparedness for future managerial and clinical leadership roles. • Promote engagement with national and local AHP Leads to ensure that radiography is promoted more actively as a profession and involved with and aligned to multiprofessional future planning.
<p>Ways of increasing supply and bridging the gap</p>	<ul style="list-style-type: none"> • Develop a clear view of the skills required in the workforce currently and how that is expected to alter in the future, taking into account the key drivers necessitating change, including the need for 24/7 and 12/7 services. Prioritise recruitment and retention of radiographers by network collaborative working. • Progress analysis of the National Imaging Dataset (NIDC) for trusts in the North West to demonstrate the current state of the radiographic workforce. This will be modelled according to future needs. • Consider what the imaging workforce will need to look like in the short, medium and longer term in order to meet the growing demands and new or transformed services. • Promote the recently established NW DRAD WAG to ensure that appropriate education opportunities required for the future workforce are in place and available. This group comprises Radiology Service Managers, North West HEI's, HEE Workforce Planners and HEE Education Transformation Programme Manager and links in with similar groups in other regions. • Tackle the barriers to increasing student numbers by using innovative approaches to placement expansion and working with AHP Clinical Placement Expansion Programme (CPEP) Leads and using available technologies e.g. simulation, HoloLens mixed reality headset, remote supervision using virtual expert staffed command centres • Work with HEE Reducing Pre-Registration Attrition and Improving Retention (RePAIR) Lead, along with HEI's to increase the number of students completing their studies. • Understand and enhance the flow out of training and into the



	<p>workforce.</p> <ul style="list-style-type: none"> • Engage further with the national task and finish group on retention of radiographers and contribute to the development of retention strategies. • Continue to explore the potential of diagnostic radiographers returning to practice by engaging with the NW Bringing Back to Service Programme (BBS). • Continue to explore the situation regarding any local arrangements for international recruitment with HR and workforce planning departments. • Further explore and communicate the details of schemes that support international recruitment of diagnostic radiographers and sonographers, such as Yeovil Hospital International recruitment, Global AHP Programme and NHS Professionals. • Utilise tools and packages developed to support international recruits and local imaging department teams in preparation for arrival in the UK e.g. e-learning for health. • Promote imaging as a career with alternative entry routes, such as apprenticeships, pre-registration MSc and bridging courses to attract school leavers/ mature students/ graduates who currently may not have the academic qualifications for a degree course or may wish to or need to work whilst studying. • Maintain engagement with HEE Apprenticeship Lead and HEI's to ensure appropriate provision of training opportunities at Assistant Practitioner and BSc levels. • Promote imaging as a career by developing links with schools and colleges, supporting careers events and developing a consistent and collaborative approach to work experience across the networks. • Explore other employment pools to expand the pipeline e.g. retiring demob military radiographers and graduates from other science disciplines wishing to pursue a career in healthcare. • Review current work patterns within the networks that support 24/7 and 12/7 services. Share details of work patterns that provide capacity matched to demand, minimal requirement for waiting list initiatives and offer the best work life balance for staff with flexible working practices. • Consider the use of e-rostering to support 24/7/ and 12/7 working.
<p>Up skilling current staff – deliver and grow</p>	<ul style="list-style-type: none"> • Support workforce planning and business cases to reflect adequate staffing headcount to allow radiographers and sonographers time to undertake training and development. This includes Continual Professional Development (CPD) in line with requirements of the Health and Care Professions Council (HCPC) to maintain state registration.



	<ul style="list-style-type: none"> • Explore ways of providing wrap-around support training and development for trainers at organisational level. Encouraging valuing the role of educators in the imaging team. • Promote the development of business cases to ensure that there is executive support for career progression for existing radiographic staff, including backfill funding. • Promote extended roles for radiographers and sonographers with regard to the emerging work on the distinction between enhanced practice and advanced clinical practice. • Ensure that ACPs work at the top of their licence and compliment their reporting or procedural skills by contributing to the leadership and management, education and research, according to the four pillars of advanced clinical practice. Ref: ⁵Multi-professional framework for advanced clinical practice in England • Stimulate the introduction of more Advanced Clinical Practitioner and Consultant Radiographer and Sonographer posts within patient pathways, e.g. stroke, MSK and urology. • Continue to expand radiographer roles to include reporting for all feasible areas beyond MSK, including chest/ abdomen, head CT, MR spines, MR knees, etc • Explore the opportunities for increasing the number of acquisition and reporting radiographers in CT, MR and Ultrasound to contribute to the additional projected high demand for these modalities e.g. provision of post graduate courses, simulation and 'virtual expert' systems. • Consider development of an imaging workforce staff bank at network and potentially regional level. • Contribute to planning for the development of radiographer academies in the NW, alongside HEE, HEI's and other stakeholders. This will allow expansion in training capacity and promote multidisciplinary peer support and learning for radiographers, sonographers and radiologists for on-going protected training and CPD away from the workplace. • Continue to explore the potential of development of and collaboration between Radiography Academies in the North of England. • Maintain relationships with HEE and other organisations in order to take advantage of any funding opportunities for training and development of staff.
<p>New roles</p>	<ul style="list-style-type: none"> • Explore roles within CDH models that could be undertaken by radiographers and advanced clinical practitioners with a focus on improving patient pathways.

⁵ Multi-professional framework for advanced clinical practice in England, Charlotte Beardmore, John Clark, Mark Radford, Suzanne Rastrick, HEE, 2017 <https://www.hee.nhs.uk/sites/default/files/documents/Multi-professional%20framework%20for%20advanced%20clinical%20practice%20in%20England.pdf>



	<ul style="list-style-type: none"> • Support the implementation of recommendations from the recent NW DRAD WAG workshop 'Radiographer for the Future, including: <ul style="list-style-type: none"> • Changes to course content • Broaden clinical placement scope • Working alongside the independent sector to increase placements • Standardisation of assessment and preceptorship processes • Build the business case for roles to provide pastoral support for students and newly qualified radiographers and for additional practice educators/ clinical tutors to keep pace with the increasing numbers in the clinical environment • Progress planning process for regional or network co-ordination of student placements
<p>New ways of working</p>	<ul style="list-style-type: none"> • Enablement of cross-site working for on-site image acquisition and procedures by continuing to explore the use of digital passporting, working with national Digital Staff Passport Lead Progress the establishment of a Memorandum of Understanding (MoU) between organisations to allow virtual reporting to support development of insourcing reporting models, taking appropriate advice to ensure that due legal process is being followed. • Establish principles for non-competitive employment by standardising job descriptions, roles and responsibilities, terms and conditions and pay. • Approach a cross network approach to employment of student radiographers to avoid duplication of recruitment processes and uncertainty in radiographic workforce planning at individual trust level. • Raise the profile of projectional imaging (plain film) as a modality with role enhancement to include image interpretation to support quality assurance and defined career progression and investigate the use of Artificial Intelligence (AI) to support training. • Build relationships with independent sector providers to explore quid pro quo training arrangements and capacity with fair rules of engagement agreements on employment. • Embrace 'non-radiographic' roles, such as direct entry sonographer and nuclear medicine technologists. Support their recognition and journey to professional registration with the Health and Care Professions Council • Maximise the potential for CDH's as a training environment as there is likely to be a high proportion of 'routine' and less complex investigations being performed at these units. This may well provide a positive atmosphere conducive to learning, allowing trainees to get 'hands on' experience more quickly.



7.3 Assistant Practitioner Radiographers (AP's)

National aims (ref: Sir Mike Richards report)	Expansion of assistant practitioner posts by 2,500 and ongoing development of roles to take on work currently undertaken by radiographers
North West current state	<ul style="list-style-type: none"> • Majority delivering Plain X-Ray and Mammography. • Vacancies remained static at 10wte. • Anecdotally very small number of Assistant Practitioners undertaking training to progress to Radiographer status.
Leadership and management	<ul style="list-style-type: none"> • Encourage the development of supervision skills for working with student radiographers and trainee AP's. • Promote an awareness of managerial challenges that impact on the quality of patient care and staff wellbeing e.g. understanding performance targets and governance and where imaging fits in the patient pathway.
Ways of increasing supply and bridging the gap	<ul style="list-style-type: none"> • Maximise the use of the current AP workforce, ensuring that they are working at the top of their licence and consider expanding their scope of practice e.g. mobile and theatre imaging, DEXA and nuclear medicine. • Explore other employment pools to expand the pipeline e.g. non imaging healthcare support workers, social care support workers and military healthcare assistants. • Promote imaging as a career with alternative entry routes, such as apprenticeships to attract school leavers/ mature students who currently may not have the academic qualifications for a degree course or may wish to or need to work whilst studying. • Develop links with schools and colleges, supporting careers events and developing a consistent and collaborative approach to work experience across the networks • Tackle the barriers to increasing trainee AP's numbers by using innovative approaches to placement expansion, aligning with clinical placement expansion for the radiographic students. • Continue working with NW HEI's and HEE to encourage collaboration between them and the service providers and ensure that there is adequate imaging appropriate AP training provision, to include bridging courses and apprenticeships.
Up skilling current staff – deliver and grow	<ul style="list-style-type: none"> • Support workforce planning and business cases to reflect adequate staffing headcount to allow assistant time to undertake training and development. This includes Continual Professional Development (CPD). • Promote the development of business cases to ensure that there is executive support for career progression for existing AP's, including



	<p>backfill funding.</p> <ul style="list-style-type: none"> • Support the development of the radiology support worker career escalator that would allow progression from band 2 through to band 8 to provide options for APs to advance to practitioner status. • Ensure access is available to appropriate numeracy and literacy courses in order to facilitate career progression. Explore network and regional solutions.
New roles	<ul style="list-style-type: none"> • Explore the use of APs in CT and MRI following models developed in other areas of the country and the independent sector. • Explore blended roles within CDH models that could be undertaken by AP's with consideration of potential of broadening tasks across disciplines, e.g. phlebotomy, physiological measurements, point of care testing. • Consider the introduction of a role to support equipment quality assurance programme delivery in radiology departments.
New ways of working	<ul style="list-style-type: none"> • Consider the potential of career progression beyond band 4 in mammography and other areas e.g. nuclear medicine without the necessity to complete a full radiographic training. • Build on successful workforce models including AP's in the NW by sharing learning across networks and the region. • Maximise the potential for CDH's as a training environment as there is likely to be a high proportion of 'routine' and less complex investigations being performed at these units. This may well provide a positive atmosphere conducive to learning, allowing trainees to get 'hands on' experience more quickly.



7.4 Radiology Support Workers (RSW)

<p>National aims (ref: RSW expert working group. Lead by Richard Griffin in conjunction with SCOR)</p>	<p>To maximise the contribution of the support workforce to deliver safe and effective care as an integral part of the radiology workforce across all modalities. To be able to work to their full potential and progress if they wish or maintain a rewarding career if they do not wish to progress any further.</p>
<p>North West current state</p>	<ul style="list-style-type: none"> • Observed reduction in Imaging Support Workers. • Variance between ICS/Organisations • Majority aligned to Plain X-Ray and Ultrasound with an element aligned to CT and MRI. • Small reduction in vacancies • High levels of Bank usage and Overtime activity for this role.
<p>Leadership and management</p>	<ul style="list-style-type: none"> • Encourage the development of supervision skills for working with student radiographers and trainee RSW's. • Promote an awareness of managerial challenges that impact on the quality of patient care and staff wellbeing e.g. understanding performance targets and governance and where imaging fits in the patient pathway.
<p>Ways of increasing supply and bridging the gap</p>	<ul style="list-style-type: none"> • Develop and strengthen links with schools and colleges, supporting careers events and developing a consistent and collaborative approach to work experience across the networks. • Explore other employment pools to expand the pipeline including routes that may not have been used before, such as: <ul style="list-style-type: none"> • non imaging healthcare support workers • social care support workers • military healthcare assistants, • other professions such as ex airline staff • career changers from other industries including the private sector • long term unemployed • people who face barriers to employment perhaps because they have a disability • Job Centre Plus • Kickstart scheme (6 month work experience for 16-24 year olds)
<p>Up skilling current staff – deliver and grow</p>	<ul style="list-style-type: none"> • Support workforce planning and business cases to reflect adequate staffing headcount to allow support workers time to undertake training and development. This includes Continual Professional Development (CPD).



	<ul style="list-style-type: none"> • Ensure access is available to appropriate numeracy and literacy courses in order to facilitate career progression. Explore network and regional solutions. • Promote the development of business cases to ensure that there is executive support for career progression for existing RSW's, including backfill funding.
New roles	<ul style="list-style-type: none"> • Explore blended roles within CDH models that could be undertaken by RSW's with consideration of potential of broadening tasks across disciplines, e.g. phlebotomy, physiological measurements, point of care testing, patient preparation, clerical duties.
New ways of working	<ul style="list-style-type: none"> • Support the development of the 5 tier structure career escalator for radiology support workers by implementing recommendations from the national expert working group on roles, responsibilities, job descriptions, etc

8 Additional Roles:

8.1 Medical Physics workforce (Healthcare Science Practitioners/Technologists, Healthcare/Clinical Scientists, Radiopharmacy Technicians, Radiopharmacists, Expert Advisers)

It is acknowledged medical physicists are a key workforce group involved in the running of an imaging department to promote safety and quality, to provide advice on optimisation of equipment performance and to ensure that departments are complying with imaging legislation. They use analytical and applied scientific techniques to assist healthcare workers in the diagnosis and treatment of patients. Consultant led services support:

- multidisciplinary clinical experts to make the best use of state-of-the-art equipment
- treatment of patients as individuals rather than populations
- innovation and shared learning
- research
- healthcare provider management systems and data interpretation
- health and safety practice and culture

The expansion of the Medical Physics Expert role in diagnostic radiology in recent years through the Ionising Radiation (Medical Exposures) Regulations 2017 and the UK competence recognition structure to gain MPE certification has added pressure to an already depleted workforce reacting to imaging growth.

Sir Mike Richards recommended that an additional 220 medical physicists would be required to support the predicted expansion in the imaging service over the next five years. This will not be inclusive of a number of related professionals such as Radiopharmacists and Radiopharmacy Technicians.



The Institute of Physics and Engineering in Medicine (IPEM) and the NW Medical Physicists Group has undertaken a national workforce survey to determine gaps in capacity and skills and there is a NW medical physicists group reviewing this data locally.

This strategy cannot determine how the medical physics workforce should expand and develop. Imaging networks and regional representatives will continue to liaise closely with the medical physics community to provide support for their workforce business case development (funding for which will almost certainly be directly from the imaging services the physics service providers support and which must grow sufficiently to employ those trained, often in supernumerary posts). In addition, networks will encourage skill mix innovation to help further integrate medical physicists into the clinical imaging environment where local onsite/clinical support and multidisciplinary working will enhance workforce impact. Models of shared recruitment (between imaging service providers and physics service providers) with staff recruited to locations across the NW will be explored with the expectation that more advanced and expert roles will resource across the wider network. Shared and expanded training opportunities should accelerate workforce growth and competence.

Local and national groups will consider:

- outreach events to school children and above to make the profession known
- apprenticeships
- healthcare science assistant roles
- increased uptake of the (currently) voluntary registration of healthcare science practitioners
- advanced healthcare science practitioner career pathways
- advanced recruitment into scientist training programmes and equivalent routes to registration
- enhanced Radiation Protection Advisor, Medical Physics Expert, Radioactive Waste Advisor and MR Safety Expert training provision
- support for the Higher Specialist Scientific Training (HSST) consultant training pathway and backfill to allow proper training experience to improve quality
- leadership and management training and experience at all levels

There is scope for Clinical Educator posts to focus on training delivery, management, quality and scaling up across all pay bands within medical physics and to contribute to strategic discussions within the network.

Networks need to explore how they can integrate the medical physicists into the network governance structures to ensure that they are informed of network plans and service reconfiguration. This will allow them to assess the impact on the service they need to provide to support this and the subsequent workforce implications.

NB across the NW, provision of medical physics services is split between NHS and independent sector provider. Currently, the NW medical physicist group is reviewing the range and levels of service they are providing in the region with a view to describing a network/ region wide solution for the service.

Action on training and identification of workforce funding is essential immediately to support the commissioning and uptake of technology expected now and in the coming years.



8.2 Radiology Nurses

Radiology nurses are nursing professionals that care for patients that are undergoing diagnostic imaging procedures and as a profession, provide complimentary skills and knowledge to support the imaging service as a whole, e.g. infection control, medicines management. They are integral members of the interventional radiology team and may carry out a range of procedures. There is considerable variation on how radiology nurses are managed. They may be employed by imaging but managed by trust nursing leads.

Staffing levels will depend on the size of the interventional radiology department and the activities it undertakes, so the impact on radiology nursing workforce must be considered when any imaging transformational change is taking place and business cases will need to reflect the nursing requirement.

Imaging networks will need to explore opportunities to share nursing resources to support cross network provision of interventional radiology services, including out of hours. In addition, consideration needs to be given to the development of radiology nurses as well as radiographers as advanced clinical practitioners in interventional radiology procedures.

8.3 PACS and RIS and Information Analysts

The work of the radiology services is completely dependent on robust functioning IT systems to support day to day workflow and generate performance and activity data to inform departmental and trust planning and strategy. Trusts mostly use a Picture Archiving and Communication System (PACS) to store digital images and a Radiology Information Systems (RIS) as a workflow, although some use aspects of an Electronic Patient Record (EPR) which may also be linked to PACS. This requires dedicated, highly skilled staff to manage and administer these systems. A shared digital platform and workflow is fundamental for effective and efficient networking as per the NHSE & I Diagnostic imaging network implementation guide in April 2021.

PACS/RIS teams have evolved with a variety of workforce models – usually a mix of clinical and administrative members of staff with trust wide IT support in varying degrees. Tasks include:

- PAC/RIS system administration – maintaining background tables, granting system access to users
- Data quality checks and day to day running
- Image transfer to other organisations as required, e.g. private sector
- Use of business intelligence tools to support performance and operation
- Generation of statistical reports both for imaging departments, wider trust and external agencies
- Troubleshooting and rectifying data entry errors
- User training both within and outside imaging
- Communication with users and other PACS/RIS teams in the network and further afield
- Resource required for changes, upgrades, etc
- Planning procedures for out of hours issues

As a business-critical system, it is vital that the workforce required for both element of PACS RIS management is considered in any business and continuity plans at local and network level. Consideration should be given to this by networks as shared workflow systems come on line.



Additional resources will be required in the following situations:

- Preparation for and installation of new PACS/RIS/EPR
- Preparation for integration work with other IT systems and imaging equipment, e.g. electronic requesting systems
- Major incidents investigation and rectification following downtime
- Upgrades, application of patches
- Participation in all stages of procurement, i.e. development of specification, tender assessment
- New initiatives, e.g. CDH design and on-going management
- Generating solutions for image sharing with temporary imaging facilities, e.g. independent sector mobile scanners
- Availability of network wide imaging system advice out of hours to support 24/7 and 12/7 service need.

8.4 Administration and clerical staff

Members of this staff group are crucial at every step on the patient imaging journey including:

- receiving referrals
- scheduling imaging examinations
- reception of patients
- reporting
- background functions – MDT preparation
- alert systems auctioning
- secretarial/ personal assistant support
- supporting departmental meetings
- liaising with clinical teams including GP surgeries, legal and outside agencies
- contribution to service improvement

Traditionally, training of this staff group focusses on departmental processes and IT systems with limited opportunities promoting personal growth and career progression. This maybe one of the contributory factors in the high level of sickness and absence and turnover rates identified in the NIDC data. Many of the roles involve patient interactions where professionalism and good communication skills are vital. In order to enrich roles and improve job satisfaction, training and development should be provided and include:

- customer care
- communication skills
- awareness of managerial challenges that impact on the quality of patient care and staff wellbeing e.g. understanding performance targets and governance
- an understanding of what imaging examinations/ procedures involve and where imaging fits in the patient pathway

Constant review of roles and staffing structures is required to accommodate changes in technology and service delivery e.g. use of voice recognition for radiology reporting and paperless workflow



and cross trust working. In addition, this staff group should always be included in service redesign as they offer a valuable insight into patient perspective. When redesign necessitates, opportunities to move into other roles in imaging should be made available i.e. 'grow your own' clinical staff.

9 Cross-cutting Priorities

9.1 Health and wellbeing

The Health and wellbeing of all staff have been challenged by the response to COVID and this challenge is likely to continue for the near future.

The imaging workforce has continued to see a growth in staff vacancies which far outstrips the modest growth in substantive staff. Sickness rates had been increasing prior to the pandemic and we are yet to see the impact of staff fatigue and delayed retirements on the already stretched workforce.

All ICS have established Resilience Hubs to provide access to psychological support and rapid response services for staff and have appointed Health and Wellbeing Guardians at all Trusts. We should encourage imaging staff to take full advantage of the additional support offers as needed. All staff are enabled to carry forward annual leave and participate in buy-back packages which again we must make aware amongst the imaging workforce.

Pre-covid trends suggested high volumes of insourcing, especially for Plain X-ray and CT backlog reporting, as well as increasing volumes of overtime for most qualified staff roles. We must be aware of this increased burden on staff, especially within the immediate recovery period, and implement initiatives to mitigate additional pressures and potential "burn out".

9.2 New ways of delivering care

The implementation of Imaging networks and CDHs provide the opportunities to deliver care differently and to build on the collaborative lessons learnt from responding to the pandemic. Joint working across not only the NHS providers but also with the Independent sector provides an opportunity for alternative patterns of employment and training which could be attractive for staff.

The current service redesign initiatives also provide the opportunity to expand and widen skill mix within our workforces. The existing structure is largely Radiographer heavy with low usage of Assistant Practitioners and Advanced Practitioners. It must be a key priority to undertake a comprehensive skills analysis to fully understand the duties being undertaken and challenge our thinking around which staff can deliver them. We have a key opportunity now to enhance roles, enabling qualified staff to work to the breadth of their licence. In this way we can enhance career opportunities, making Imaging and the NHS the "Best place to work".

9.3 Recruitment, retention and growing the workforce

The North West Imaging workforce has previously shown around a 9% growth in staff. However, at the same time we have seen a 5% growth in leavers. Clearly, initiatives to grow and improve recruitment will only take us so far. Retention must be a main priority. We need to understand why staff leave and where do they go when they leave. The rise in outsourcing activity also poses a challenge and we need to be aware of employment packages offered within the Independent sector, working collaboratively to explore blended opportunities which may address staff needs.

Obtaining a good understanding of workforce flows will also be important in building our intelligence around how to grow. We need to build on agreements made within other workforces to gain the IG permissions to enable identifying and tracking learners into, through and out of training and most crucially into employment. This work will be best done at a North West level in order to



see cross system flow of staff as well as flows out of and into the Region. This detailed analysis will provide us with the intelligence to develop targeted recruitment and retention initiatives to attempt to slow the “leaky bucket”.

9.4 Flexible working

There is significant work being undertaken across the North West to facilitate more flexible ways of working. The work surrounding staff passporting will enable staff to work differently across networks and within a range of alternative community settings as they become more established. Collaborative banks, e-Rostering and e-Job planning will make staff mobility easier and more effectively address short-term workforce shortages. Digital and technological solutions which are seeing Networks moving towards shared PACs/RIS systems will continue to facilitate home or remote reporting. Opportunities must also be maximised to embrace alternative models of supervision and training in order to embed flexible working patterns whilst not compromising educational placement capacity. In addition, we must also consider the changing expectations of work /life balance in our current educational packages ensuring that learners are prepared for the employment opportunities of the future as well as the services being capable of adapting to continue to offer fulfilling career options. The development of a NW Imaging Academy offers a great opportunity to explore alternative approaches to education and continual professional development pathways which can offer tailoring and flexibility to both learners and services.

9.5 Culture and leadership

Significant pieces of work are ongoing across the ICS systems in the North West to continually enhance and develop culture and leadership. All ICS are developing their planning capabilities at place or ICP level, which provides an opportunity to link blended workforce and staffing models to the discrete needs of the populations they serve. L&SC is one of the pilot areas for the NHS High Potential Scheme (HPS), the only Northern pilot, and will trial experiential learning opportunities to stretch system leadership capabilities and increase individual's readiness for future leadership roles. It will be particularly important within Imaging to maximise opportunities both within the pilots and in future adopt and adapt roll out, as we can see an increasing trend in service manager vacancies which had doubled in previous years. Embedding an understanding, capability and desire to lead and transform services needs to be built into education and CPD pathways in order to successfully plan and deliver the managers and leaders imaging will need in the future. Fully exploring ways to build skills in leadership, change, harnessing innovation and transformation will be essential as well as spreading workforce planning methodologies which harness and captivate clinical leadership in modelling the future need. Addressing this needs to be embedded along the whole career pathway for all professions to build a workforce that is ready and capable to lead regardless of role or band.

9.6 Diversity and inclusion

In order to address workforce challenges and build teams that reflect the diversity of the populations they serve we must enhance opportunities for widening participation, exploring alternative entry and training methods for individuals who may not feel traditional educational routes are right for them and their families. Expanding opportunities for vocational and apprenticeship opportunities as well as promoting the benefits and rewards of working within Imaging will be key in delivering a fully inclusive workforce. There are innovate approaches being undertaken across the North West such as the 'Developing a culturally intelligent executive team' sessions run in C&M, the purpose being to embed the adoption of cultural intelligence as a model for moving beyond unconscious/conscious bias towards culturally competent leadership and system wide partnership to reduce inequalities. Learning from these events can and should be adopted and spread across the emerging Imaging networks. Mentoring and reversed mentoring schemes adopted within some ICSs also have the potential to support staff through preceptorship and continual professional development as well as embed a culture of belonging and inclusivity.



In exploring ways to meet the workforce requirements for the predicted growth in activity signalled in the Richards report, we also need to consider the accessibility of imaging services for our populations. The development of CDHs will help build the foundation of alternative, more accessible services but we also need to consider the personal, communication and reasonable adjustment skills that imaging staff may need to address accessibility for all patients. This may also provide the opportunity to address DNA, and image quality issues.

10 Next steps

The NW Imaging Workforce Strategy has been informed by engagement with the workforce groups from the three NW ICS, the NW DRAD WAG, HEE, various groups undertaking specific workforce projects and colleagues in other regions.

To support delivery of the strategy, a NW implementation plan for the next 5 years will be developed, which will inform the local implementation plans for the three ICS.

The implementation plan will describe the clear steps we will take to embed and progress the priority areas articulated here. It will importantly contain an approach to communication and support for ICS to enable each system to build and deliver on the areas of focus critical for their systems.

We will articulate a framework for the Region and Imaging Networks which will require a collaboration of clinical medical, operational service leads, project management and strategic workforce planning expertise to deliver those steps.

A critical area to draw out will be how we build capabilities and peer support for those at the front line of transformation, incorporating how to adopt behavioural science within a service change environment.

As imaging networks develop and in order that transformational change can take place, it is crucial that all of the imaging community are well informed and involved. Each network will need robust communication systems in place to ensure that engagement takes place, e.g. use of newsletter and bulletins, surveys, road shows, webinars, drop in sessions to describe plans and articulate the benefits of working together collaboratively.

The implementation plan will also visualise a road map for change which will outline the next steps to address our key workforce challenges both now and for the future.

This is only the start of the journey. To address the challenges facing Imaging in the North West we all need to **be innovative, be radical and think differently**.

*“Change is the law of life and those who look only to the past or present are certain to miss the future”
John F. Kennedy*



Appendix 1: Plan on a Page

Richards Report Recommendations	<p>Recommendation 7: New diagnostic technologies rapidly evaluated – e.g. artificial intelligence in imaging</p> <p>Recommendation 8: CT scanning capacity expanded by 100% over the next five years</p> <p>Recommendation 9: MRI, PET-CT, plain X-ray equipment (including mobile X-ray equipment) and ultrasound and DEXA scanning equipment expanded in line with growth rates prior to the pandemic.</p> <p>Recommendation 12: additional 2,000 radiologists; 4,000 radiographers (inc. advanced practitioner radiographers), support staff, key ‘navigator’ roles. Additional training places for radiologists and radiographers and expansion in assistant practitioner and support staff roles.</p> <p>Recommendation 13: increase in advanced practitioner radiographer roles, to achieve the reporting of a minimum of 50% of plain x-rays.</p> <p>Recommendation 22: complete establishment of the imaging and networks</p>
Primary Objective	<ul style="list-style-type: none"> To ensure that the North West has sufficient workforce with the right skills, enabled to embrace new technology and models of high quality service delivery for patients.
Aims	<ul style="list-style-type: none"> Develop a North West Strategy & Implementation Framework to support Diagnostic Recovery and expand Imaging capacity Promote collaborative working between the imaging networks to support workforce transformation. Increase supply of medical and non- medical imaging workforce as well as collaboration between service providers and educators to deliver appropriate training Grow our workforce by inspiring NW populations to work in imaging services, promoting equality, diversity and inclusivity. Enhance and optimise skill mix to develop a flexible and effective imaging workforce.

Key strategic activities 2021-2025

Looking after our people	Belonging in the NHS	New ways of working & delivering care	Growing for the future
<p>Encourage leadership and managerial development opportunities for staff.</p> <p>Promote home reporting for in-hours and out of hours working to support work-life balance.</p> <p>Promote awareness and access to ICS Resilience Hubs to provide access to psychological support and rapid response services.</p> <p>Continue work around staff passporting, collaborative banks, e-Rostering and e-Job planning to address staff mobility.</p>	<p>Encourage leadership development at all levels.</p> <p>Utilise support tools for international recruits to help preparation for arrival in the UK.</p> <p>Provide training and development packages for Admin & Clerical staff to enrich roles and improve job satisfaction.</p> <p>Explore alternative entry and training methods to enhance widening participation.</p> <p>Adopt & embed cultural intelligence as a model to develop culturally</p>	<p>Review & share good practice for work patterns delivering 24/7 and 12/7 services.</p> <p>Development of a ‘diagnostician’ role.</p> <p>Enable cross-site working for on-site imaging.</p> <p>Establish an MoU to allow virtual reporting & development of insourcing reporting models.</p> <p>Develop collaborative radiology reporting hubs.</p> <p>Evaluate & implement AI tools.</p> <p>Promote the role of Advanced Practitioner to undertake reporting and specialist duties.</p> <p>Stimulate more consultant radiographer and sonographer posts within patient pathways.</p>	<p>Maximise schemes supporting international recruitment, e.g. Global Fellows Programme</p> <p>Interrogate data and flow analytics out of training into the workforce.</p> <p>Support business case development for expansion in posts.</p> <p>Develop a network approach to recruitment.</p> <p>Promote radiography actively as a profession.</p> <p>Explore innovative approaches to placement expansion using available technologies.</p> <p>Reduce Pre-Registration Attrition and Improve Retention.</p>

competent leadership and system wide partnership to reduce inequalities.

Mentoring and reversed mentoring schemes.

Establish principles for non-competitive employment, standard job descriptions, roles and responsibilities, T&C and pay

Raise the profile of plain film as a modality.

Explore blended roles within CDH & collaboration with Independent Sector.

Undertake a comprehensive skills analysis to inform & transform staffing models.

Promote alternative entry routes, such as apprenticeships, pre-registration MSc and bridging courses.

Implement recommendations from the NW DRAD WAG workshop 'Radiographer for the Future'.

Explore other employment pools e.g. non imaging healthcare support workers, social care support workers and military healthcare assistants.

Development of the radiology support worker career escalator.

Ensure access to numeracy and literacy courses to facilitate career progression.

Explore and understand leaving reasons to inform & develop retention initiatives.