NHS England Midlands

Healthcare Science Training and Education Charter

Midlands' Healthcare Science Training and Education Charter

This Charter outlines our commitment to prioritise the continual growth and sustainability of healthcare science training and education, setting out the main values and principles to achieve this. The Charter recognises the determination of providers to establish the best possible aspirational practice across the Midlands region as an exemplar for healthcare science education. We also work to ensure that equality, diversity and inclusivity fundamentally underpins everything we do.

We commit to:

1. Ensuring adequate experience

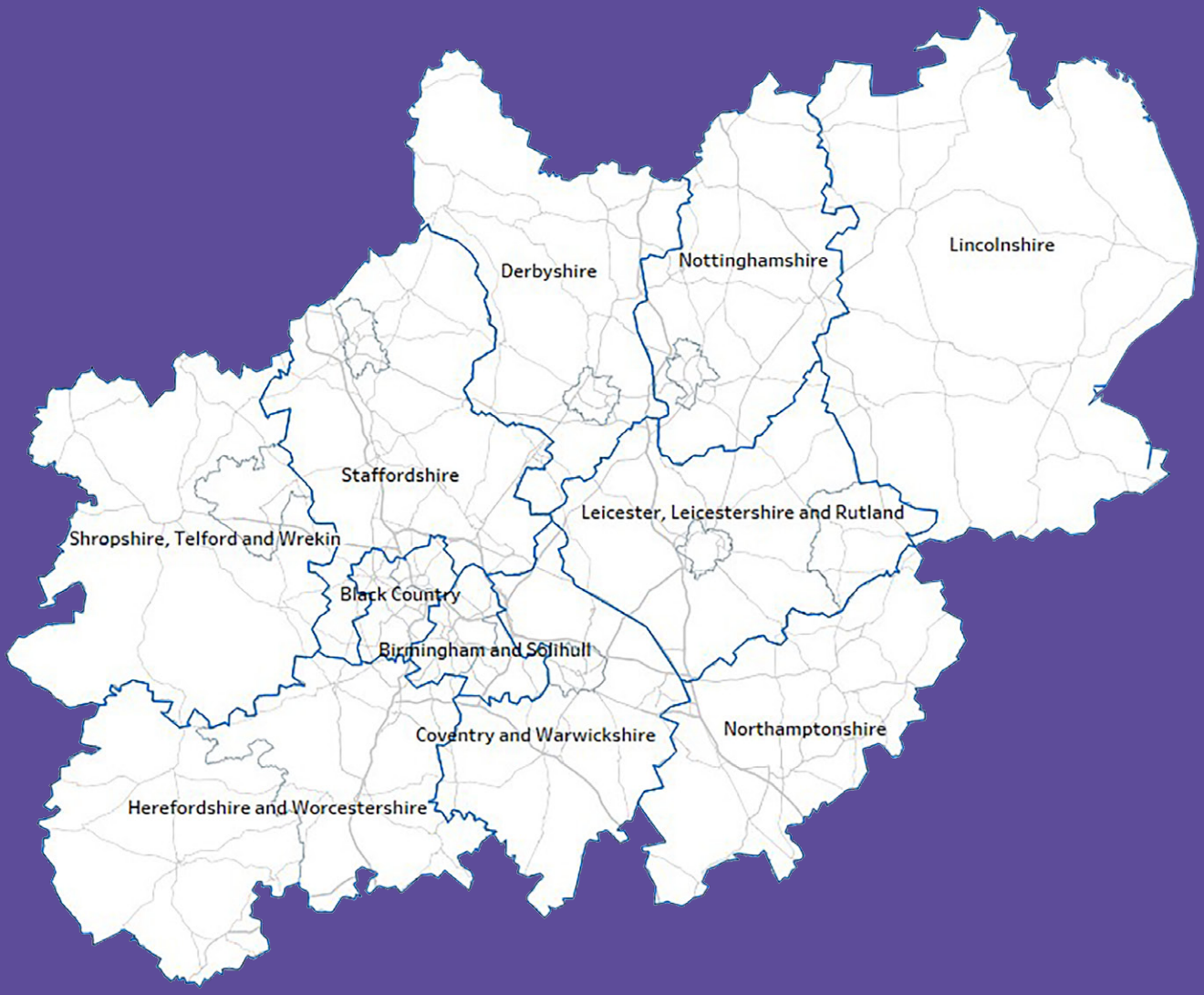
- Ensure that trainees are given equitable access and opportunities as part of their experiential learning and development.
- Establish robust lines of communication between NHS England (NHSE) with trainees, training providers, professional and other bodies such as the National School of Healthcare Science (NSHCS) and Academy of Healthcare Science (AHCS) to facilitate successful training programmes.
- Ensure that trainees are provided with adequate resources to comply with safety, quality, diversity, and inclusivity.
- Consult with training bodies and training providers who offer support to trainers, to ensure that support allows the best outcomes for trainees.

2. Providing educational support

- Ensure healthcare science education and training is represented and discussed at an appropriate board level within host organisations.
- Use processes, such as job planning, to ensure sufficient time is given to educators and trainers for educational and clinical supervision.
- Ensure trainers and educators have appropriate access to training and development to support their roles, including networks and local/national training to assist learning and collaboration.
- Ensure access to employer provided support services and continue to offer these to trainees as a supplement to services provided by NHS England.
- Provide transparency of access and use of associated funding in supporting trainees and educators.

3. Creating a supportive training environment

- Ensure trainee representation in leadership, management, and employee networks.
- Ensure wider professional development of the trainee by providing access to appropriate mentoring, role models and professional networks and experiences.
- Provide access to high quality rest, break and changing facilities.
- Ensure trainees are given adequate prescribed study time within educational programmes as well as educational supervision and other supporting activities, such as conducting audits and research.
- Continue to provide employer support and counselling services with full access for trainees and staff providing training.



The adaptability and dedication of our healthcare science workforce was pivotal in the covid-19 response with healthcare science trainees stepping into new roles and ways of working to deliver health services. The contribution of scientists remains critical in every layer of our continued national response and in the transformation and recovery of services. Healthcare scientists underpin 80% of all diagnoses and clinical decisions made.

Our trainee scientists, which span over fifty different specialties, are our most valued commodity ensuring these vital services continue to be available to all patients and clinical teams in a timely manner.

By signing up to the healthcare science training and education Charter, we are committing to providing our regional trainees with first class training and support. We recognise the vital contribution of this workforce and want to retain them as our clinical leaders of the future.

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Background

The education and training of the future workforce is critical to the sustainable delivery of healthcare.

At present there are over 50,000 healthcare science workers, spanning fifty different specialisms in the NHS and public health services. Their work underpins 80% of all diagnoses with involvement across the whole innovation pathway; from academic roles through to patient-facing delivery and service transformation. The quality of education, training and continual development assists in shaping and ensuring the best quality practice, benefiting patients and other service users.

High quality education and training is pivotal to a sustainable healthcare science workforce fit for the future. We need to ensure we attract and retain roles such as assistants, associates, practitioners, scientists, and consultants. This will enable the health service to have a continuous supply of healthcare science workers at all levels and across all specialisms.

We want training that delivers practical, experiential, and underpinning knowledge to satisfy the required competencies and that is embedded within supportive and inclusive environments. This will help to ensure and encourage trainees to remain within the Midlands region after completion of their training.

Training is delivered by our healthcare providers across the Midlands region and are known as Local Education Providers (LEPs). They agree to the terms of the Learning Development Agreement (LDA) or equivalent, as a condition of NHS England funding. Whilst our LEPs remain committed to delivering a high standard of education and training, the experiences of many trainees can be influenced by inconsistent opportunities and inadequate conditions compared to peers across the Midlands. As such, these trainees miss out on training prospects, as well as potential to develop themselves professionally and personally. We know this impacts on recruitment and retention, therefore it is critical to invest in the training and development of the current and future healthcare science workforce, as outlined in the following:

"Healthcare scientists are critical to delivering the NHS long term plan, providing scientific, diagnostic and specialist treatment services to support clinical decision making and ensuring patients and citizens benefit from cutting-edge technology such as genomics and CAR-T therapy."

Source: We are the NHS: People Plan 2020/21 - action for us all (August 2020)

The Charter recognises the values and principles in aspiring to provide 'gold-standard' training to the roles within healthcare science and associated specialisms. It also emphasises the commitment to turn the Midlands region into a beacon for education and training. Aligning the expectations of all contributors so that energy is focused on the priorities for trainees, education, and the continued safe care of our population.

Specialised physiologist training a placement university student on setting up a continuous positive airway pressure device used for patients with obstructive sleep apnoea.

The challenge

On occasions, trainees have experienced challenges in accessing adequate education and supervision, consequently impacting on the acquirement of new competencies and maintenance of established skills.

We believe that education and training must be underpinned by robust educational and clinical supervision and increased pastoral support. The working environment also needs to be conducive to training with acknowledgement of basic needs and signposting to both formal and informal support.

The Charter identifies three main domains in fulfilling the required training and education, whereby specific aspirational values and principles are described. It is acknowledged that healthcare science training across the distinct roles and professions will vary, that not one size fits all. We hope the inspiring case studies within this Charter can be used as a guide to implement different delivery methods of adequate experience, educational support and training environment.

1. Adequate experience

Trainees must fulfil curriculum competencies. This requires meaningful exposure to a broad range of practical activities and assimilation of underlying knowledge clinically relevant to their healthcare science specialism.

Radiotherapy physics clinical scientist performing commissioning checks on a radiotherapy linear accelerator treatment machine using a scanning water tank.

To fulfil this obligation, we will:

1.1 Recognise the need for trainees to be given access to a range of emerging and diverse experiential opportunities.

1.2 Recognise that trainees have direct and non-direct clinical experiences.

1.3 Ensure trainees are given equitable access and opportunities as part of their learning and development associated with training programmes.

1.4 Recognise the importance of establishing robust lines of communication for all those involved as part of a trainee's journey, both locally and externally of the host organisation and training provider.

1.5 Recognise the benefit of establishing cross organisational local, regional, and national networks in facilitating delivery of the practical requirements for trainees and trainers.

1.6 Commit to upholding the standards of safety, equality, diversity, and inclusivity as part of a trainee's journey within the healthcare science professions.

1.7 Commit to supporting educators and trainers, and recognising that by developing their own skills and practice will positively impact the experience of trainees.

1.8 Ensure that trainees are made aware of all available career pathways and options related to their profession, and that these can be realised in the host organisations.

Genetic Technologists preparing tumour samples for DNA extraction to aid diagnosis and treatment of patients

CASE STUDY

Sandwell and West Birmingham Hospitals NHS Trust

Kendra Hall | Trainee Clinical Scientist, Gastrointestinal Physiology

Gastrointestinal (GI) physiology external opportunities

"Being a trainee in a small department I was given the opportunity to gain significant clinical experiences and attend educational courses beyond my own organisation, being positively supported and encouraged to do so by my training officer. Building on the close networks already established by my department, I have now made my own contacts based on these experiences, feeling more confident in now organising external sessions myself.

I have been very much encouraged and supported to observe the various departments a patient would encounter during their patient pathway. These include participating in several different consultant and specialist nurse-led clinics, observing endoscopy/colonoscopy procedures, barium imaging tests, MDTs (Multi-Disciplinary Teams) and observing surgery. I have also gained a lot by visiting other GI Physiology departments across the county, they have been much larger - each department does things a bit differently. I have been encouraged and able to attend training courses both very much related to my discipline and others that follow my interests. This has all enabled me to gain so much, not just in experience and knowledge, but also in making the contacts that will be so important to me beyond my training."

CASE STUDY

University Hospitals of North Midlands NHS Trust

Harry Poole | Clinical Scientist (Medical Physics), Diagnostic Radiology and MR Physics

Reflection workshop

An MRI clinical scientist led on the development of a local reflection session workshop, with senior leaders within their department supporting this project and allowing people to attend this workshop during their normal working hours.

This was a hands-on face to face interactive session that included learning about different models of reflection, current training syllabus and changes, as well useful hints and tips. Most of the session, attendees discussed and explored these reflective practice concepts to help their training programs. The session also explored several examples of reflection with increasing quality. This work was carried out in collaboration with the NSHCS who have since implemented a reflective practice workshop and online resources for trainees. Further to the positive feedback and success, these sessions will be carried out in the future to help enrich the quality of learning.

"I ran a reflection workshop for our new STP (Scientist Training Programme) and trainers following the change in the curriculum. This allowed both trainers and trainees the opportunity to learn how reflective practice can help improve the level of learning."

CASE STUDY

The OWL Network - The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust

Caroline Stewart | Clinical Scientist, Manager and Academic Research Fellow

Cross boundary collaboration

"When the STP was launched, clinical engineering centres faced the challenge of accessing relevant experience and opportunities for their trainees across the three engineering specialisms. This was particularly challenging where specific elements were not available in host organisations. The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust in Oswestry formed a collaborative network with teams across different regional and national boundaries (North Wales and Liverpool), forming the 'OWL' Network'.

Each partner organisation was independently accredited as a training centre and offered their own specific clinical engineering expertise through flexible local arrangements. In this way the whole curriculum could be covered, and trainees were able to work with a wide range of different scientists and specialisms.

OWL Network trainees have been supported to freely rotate between each of the organisations in completing their training program. First year rotations have been supported, along with further specialist training and support for MSc research projects in different host organisations.

Trainees and training centres have enjoyed and benefited from these arrangements, with established clinical engineers also benefitting from the networking connections. Additional perks have included access to formal training courses facilitated by organisations in the OWL group. The network has been maintained through hybrid virtual and face to face sessions for planning meetings, project presentations and running mock sessions for preparation of formal assessments.

Overall, the approach has facilitated the learning and development of trainees, with an intake averaging between two to five per year across the three training centres. The network has been able to deliver more newly qualified clinical engineers to the workforce with minimal additional staff resources.

In clinical engineering we collaborate at a national level to give trainees all they need. Oswestry is a rural location with relatively little clinical engineering in commuting distance so our partners in Liverpool and North Wales have been invaluable. We have also welcomed and enjoyed extending our network of contacts and sharing good practice."

A 3D printed knee alignment device designed as part of a project by a clinical engineering scientist who trained through the OWL network.

2. Educational support

Healthcare science education and training is a blend of experiential and non-experiential learning.

Learning through experience is underpinned by robust clinical and educational supervision. Teaching, such as seminars and workshops, are provided locally and nationally by approved Higher Education Institutions (HEIs).

NHS healthcare providers play a vital role in ensuring that educational and clinical supervision is robust, and delivered in a way that facilitates non-experiential teaching. Every patient contact or planned training event should count as a learning opportunity, as recommended in NHS The Topol Review:

'NHS organisations will need to have: a strong workplace learning culture; cultivate a reputation for training and support; develop learning opportunities that are proactive rather than reactive; allow staff dedicated time for development and reflection of their learning needs outside of clinical duties.'

Source: NHS The Topol Review: Preparing the healthcare workforce to deliver the digital future (February 2019).

To fulfil this obligation, we will:

2.1 Support educational and clinical supervision through recognition in healthcare science job planning. Ensuring adequate time is available to allow for effective and well-planned supervision, including access to local and national training, i.e., through the National School of Healthcare Science (NSHCS) and regional NHS England funding streams.

2.2 Ensure that adequate time is available to allow for effective training, including access to local and national development programmes and using a collaborative or networked approach.

2.3 Ensure access to employer support services and continue to offer these to trainees as a supplement to services provided by NHS England.

2.4 Ensure there is adequate IT provision and access to quiet areas for trainees to attend online learning.

2.5 Ensure that healthcare science education and training is a standing item at board and operational level management meetings, with senior healthcare science leaders included in the membership of relevant Trust committees e.g. people committees and learning and education committees.

2.6 Ensure transparency of access and use of Learning Development Agreement (LDA) funding or equivalent in supporting trainees and educators.

2.7 Ensure equity of access across healthcare science training programmes committing to undertake, review, and implement Equality Impact Assessments (EIAs) for trainees and educators.

2.8 Ensure equity of access for Less Than Full Time Trainees (LTFT).

CASE STUDY

University Hospitals of Derby and Burton NHS Foundation Trust

Gavin Regan | FIBMS - Cellular Pathology Service Manager and Biomedical Scientist

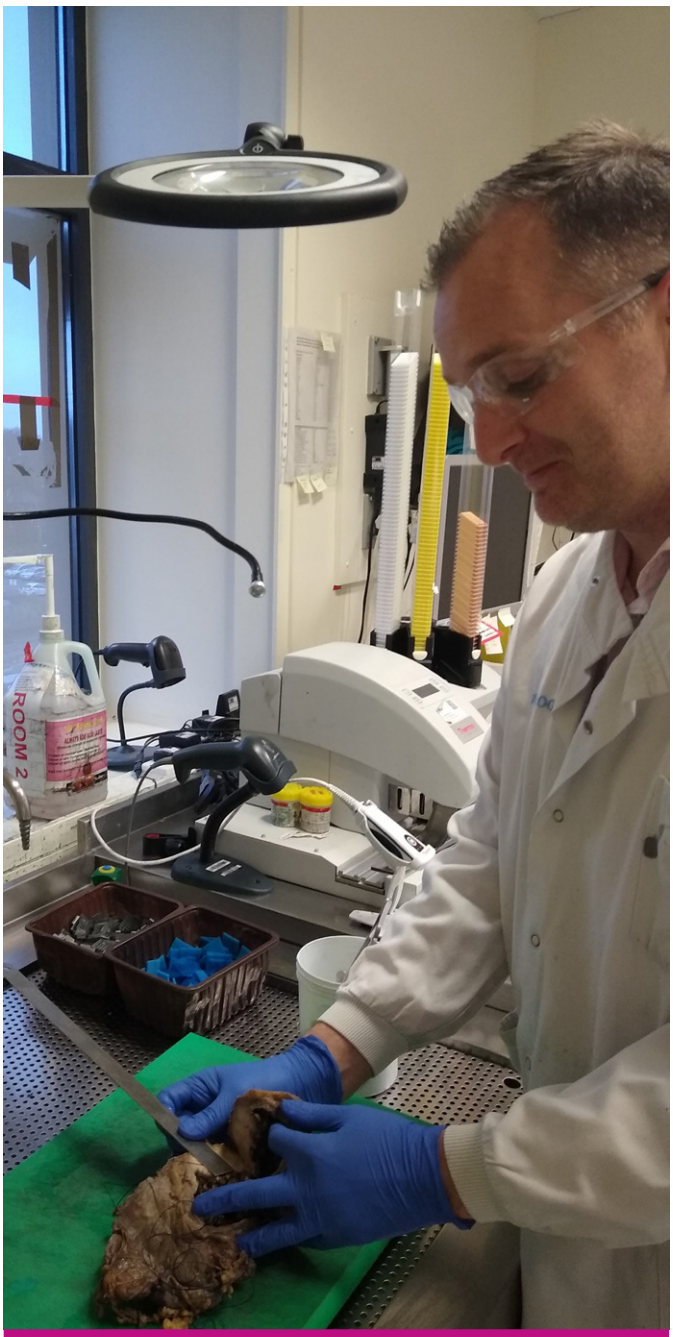
Histopathology learning and development planning

"After reviewing the role of biomedical scientists, it was recognised that some clinical duties previously performed by consultant histopathologists could be undertaken by biomedical scientists. To achieve this, dedicated time to support training and development was required, whereby factoring in training time required a new job plan. A job plan template was designed for the dissection team, separating the typical working week into ten sessions.

The job plan ensured half of the time was given to actively supporting the processing of patient samples, the remaining time was spent on supportive duties, including attending multi-disciplinary team meetings, case reviews with consultants, audits, continuous professional development, and other management/ leadership duties.

Primarily used by expert and advanced biomedical scientists, this job plan model could be applied to other biomedical scientists, helping to support their lab duties, learning and development as part of their on-the-job training. This benefits individuals by time splitting the workplan into manageable sessions, allocating dedicated time to obtain the necessary experience and learning for relevant portfolio and national qualifications. This supports increased staff satisfaction, wellbeing, and retention.

Royal Derby hospital make use of job plans for senior biomedical scientist staff to plan activities akin to medical colleagues - this covers clinical duties, continuous professional development, training, and managerial responsibilities. Job plans reviewed to reflect demands of service and review capacity."



Gavin Regan dissecting a tissue sample removed during cancer surgery as part of a histopathological assessment

The first central and south genomic laboratory hub STP trainees conference in 2022, with winner of the poster prize, Lauren Kettle, cancer genomics STP

CASE STUDY

Birmingham Women's and Children's NHS Trust

Sarah Clinton | Education and Training Lead, West Midlands Regional Genetics Laboratory

Use of Learning Development Agreement (LDA) and CPD support funds

"Within the Genetics Laboratory we have been able to take the lead and management of our trainee support (LDA) and wider staff development funds (CPD). This is overseen locally by myself as training officer and together with our finance lead, we ensure funds are transferred for both NHSE funded training programmes and Trust CPD activity.

Each year we are able to specifically review the funding and planned expenditure on programmes such as the STP and Higher Specialist Scientist Training (HSST) programmes. This allows us to ensure trainees have access to expenses relating to academic attendance but also that wider learning opportunities such as meetings, conferences or project consumables are fully funded.

As of 2023 we are hosting twenty STP trainees and six HSST trainees each with their own funding allocation. By managing this locally we are able to use any underspend on supporting our trainee's individual learning but also on our trainers and supervisors. An example of this has been funding access to the Royal College of Physicians Mentoring workshops for staff formally supporting trainees in the workplace.

More recently we were able to fund a dedicated STP trainee conference (2022). This conference was held locally at at the university of Birmingham and offered a comprehensive programme of scientific updates, workshops on key professional practice competencies, expert speakers on wellbeing and stress management, as well as a poster presentation. The aim of this day was to deliver key learning objectives which were identified by our trainees and assessors but gave trainees the valuable opportunity to network and socialise. This was something they were unable to do due to the pandemic and the hybrid model of training delivery we often need to adopt.

Having access to these funds along with our routine CPD allocation from our Trust, we are given autonomy, enabling us to look at our needs as a department across the year and make strategic decisions that support our trainees, trainers, and workforce. This could be attendance at key scientific or technical-based meetings and conferences, or more targeted education and training. For example, supporting quality and training managers to undertake post-graduate study to strengthen our knowledge base in new and expanding areas, as well as looking at wider professional skills development such as access to workplace-based teaching skills or mental health awareness/first aid training."

3. Training environment

The NHS People Plan emphasises the importance of staff wellbeing. Providers made significant efforts during covid-19 to ensure staff were supplied with adequate hygiene, affordable food and rest facilities, which improved staff morale and wellbeing.

During our September 2022 stakeholder event, our healthcare science staff and trainees highlighted the importance of having a personal and professional training environment. This included both physical and virtual training, and a wider exposure through local and national networks, which enables personal growth and psychological safety.

"As a good employer, it is our moral imperative to make sure our people have the practical and emotional support they need to do their jobs. Each of us must build on the support given during the covid-19 response and make sure it continues".

Source: NHS People Plan (2020)

Nuclear medicine technologist and clinical scientist setting a patient up for a diagnostic nuclear medicine scan

To fulfil this obligation, we will:

3.1 Ensure full trainee engagement and involvement in leadership, management, and networks. This may include representation on patient safety and rostering groups as well as membership of networks for staff with protected characteristics.

3.2 Ensure adequate access during comfort breaks including quiet spaces and access to food and changing facilities.

3.3 Ensure trainees have access to the prescribed study time within their educational programme and protected time to participate in supporting activities, such as conducting audits, research, or additional learning activities.

3.4 Identify quiet, non-clinical locations, with adequate IT provision, to allow trainees to take study time and attend virtual training.

3.5 Ensure trainees are provided with clear and organised training plans, rotations, and details of appropriate specialist supervisors throughout their journey.

3.6 Ensure the educational environment encourages growth by offering healthcare science role models and mentors to aid the personal and professional development of the trainee.

3.7 Ensure access to wellbeing and support services.

3.8 Ensure a safe, supportive, and engaged working environment.

Clinical Embryologist gaining an informed consent from an oncology patient prior to sperm cryopreservation

CASE STUDY

University Hospitals Coventry & Warwickshire

Rachel Cleaton | Pathology Practice Education Co-ordinator for Midlands & East 4 Network

Cross-organisational training network to improve trainee experience

"We host regular Trainee Meetings for our STP and HSST trainees across all healthcare science (HCS) specialisms. This forum encourages networking/peer support for trainees and gives opportunity and exposure to learning/ research from outside their healthcare science specialism. We devote a section of the agenda for 'multidisciplinary scientific discussion presentations' and we invite trainees to present to their peers on an aspect of their learning; for example, rotations or research projects.

This experience is valuable in widening awareness to the work of the other healthcare science specialisms and their research for example, pathology trainees are invited to join and listen to presentations from their peers across physiological sciences, medical physics and clinical bioinformatics".

Healthcare science representation at board level and its impact

"Healthcare science is represented through our multidisciplinary healthcare science board and at the Trust strategic education group (with Medical, Nursing, AHP and pharmacy educators). Trainee progress is monitored through local department training meetings and at regular multi-disciplinary training officer meetings. Communication is key and is facilitated by maintaining central distribution lists to share and circulate information; for example, the trust communicates wellbeing support for all employees and provide opportunity to attend in-house leadership development programmes and training on the use of lean tools and methodology.

We have worked with STP and HSST trainees to record valuable training within a single document (particularly for the professional practice competencies) This document is shared with new trainees upon joining the organisation to signpost them to gain access to learning opportunities. As such new STP and HSST trainees are encouraged to join the West Midlands regional trainee network for support and the opportunity to contribute to themed board discussions via the trainee representative. We have also developed trust-wide guidance through the healthcare science training officers meeting to help standardise delivery of STP across HCS departments".

CASE STUDY

Birmingham and Solihull Mental Health Trust
Staff mental health hub

Supporting staff wellbeing and mental health

As the impact of the covid-19 pandemic on staff health and well-being was starting to be realised, Birmingham and Solihull (BSOL) mental health Trust launched the staff mental health hub to offer bespoke support for all staff across health and social care. This service is both confidential and free, helping to reduce barriers to access.

The BSOL mental health hub currently works alongside routine care services for healthcare staff such as psychological first aiders, occupational health, counselling, and wellbeing services, which staff can make self-referrals, be referred by managers or other organisations. What sets the BSOL hub apart is the more specialist clinical support it offers to staff. This may include rapid access to specialist psychological assessments, evidence-based psychological interventions and/or advice and consultation to further support services and referrals.

There are now several mental health hubs across the Midlands region offering this service. To find your local hub and to help signpost to our healthcare science staff, please visit:

https://www.england.nhs.uk/supporting-our-nhs-people/support-now/staff-mental-health-and-wellbeing-hubs/midlands-hubs/

Feedback from staff

"Like many healthcare professionals, I ploughed through the pandemic with a focus on services, recovery and supporting my staff at all costs. Without realising, I soon found myself completely burnt-out and unable to enjoy my work or personal life. After seeing my GP, I was referred to more specialist mental health services but after this assessment and diagnosis, I was told the support I needed would be a two year wait. This is when I contacted the BSOL mental health hub, to see if there was any immediate support available.

After my initial triage by a BSOL specialist nurse, I was assigned an experienced psychologist who was able to help me navigate my new diagnosis and offered a short-term intervention. At the time of starting with the psychologist, I only remember feeling completely overwhelmed by my thoughts and emotions and finding no logical way through. With her help I was able to pull apart some of the emotional events that had led to the burn-out and subsequent diagnosis; we worked together to rebuild my self-esteem and start work on truly getting better. She gave me the tools to take control of complex emotions and difficult decisions, and this allowed me to feel calmer and more in control. After this I went on to access more specialist services and have not looked back since.

Although it was a very difficult time for me, I now feel a much stronger and happier person as a result of taking time out to focus on myself. I am also truly grateful for this service and I'm glad we as healthcare professionals have access to support when we really need it".

Conclusion

Healthcare science is fundamentally entwinned with the provision and delivery of high quality, innovative health and social care. At the heart of this sits our dynamic and diverse Midland's workforce.

We believe that focusing on education, training and development is fundamental to the attraction, recruitment, and retention of our workforce. This will enable growth at a personal level, across organisational boundaries and system wide.

High quality training at all levels will ensure we can deliver a sustainable workforce. A workforce capable of meeting the demands and challenges within healthcare. Once embedded, the principles within this Charter will help leaders of the future to develop innovative new models of care and deliver first-class services.

The strength and validity of this work is born out from our healthcare science colleagues providing an insight of their own experiences. We heard all too frequently *"there are barriers to accessing or delivering gold-standard education and training".* We believe that by using these identified challenges, it has enabled this network to create a vision of 'what great training looks like'.

The Charter aims to put the trainee, as an individual, at the centre. We recognise the importance of their development needs and cultivating the right environment to encourage personal and professional growth.

The principles within this Charter help facilitate the values in establishing an exemplar structure for healthcare science trainees and associated stakeholders in assisting an individual's journey. Just like training, wellbeing of our people should take an individualised approach, recognising the impact of past experiences, equality, diversity, and inclusion.

As leaders in education, we ask you to embrace these challenges and use the inspiring case studies to seek out solutions and connect across boundaries to improve education and training within your organisation.

As part of the collective network there is a wealth of knowledge and experience, coupled with a desire to collaborate. We hope this Charter will motivate you and your colleagues to work together to drive forward the changes that are needed to make the Midlands a great place to train and work.

By signing up to this Charter, and delivering against these principles, we believe that in doing so will continually improve the care for patients and service users.

Senior audiologist who is also an ophthalmic and vision science healthcare scientist performing a tympanometry test as part of electrodiagnostic services.

Acknowledgements

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Teaching of a physiologist to perform cardio-pulmonary exercise tests independently, as to investigate the cardiac and respiratory symptoms of a patient

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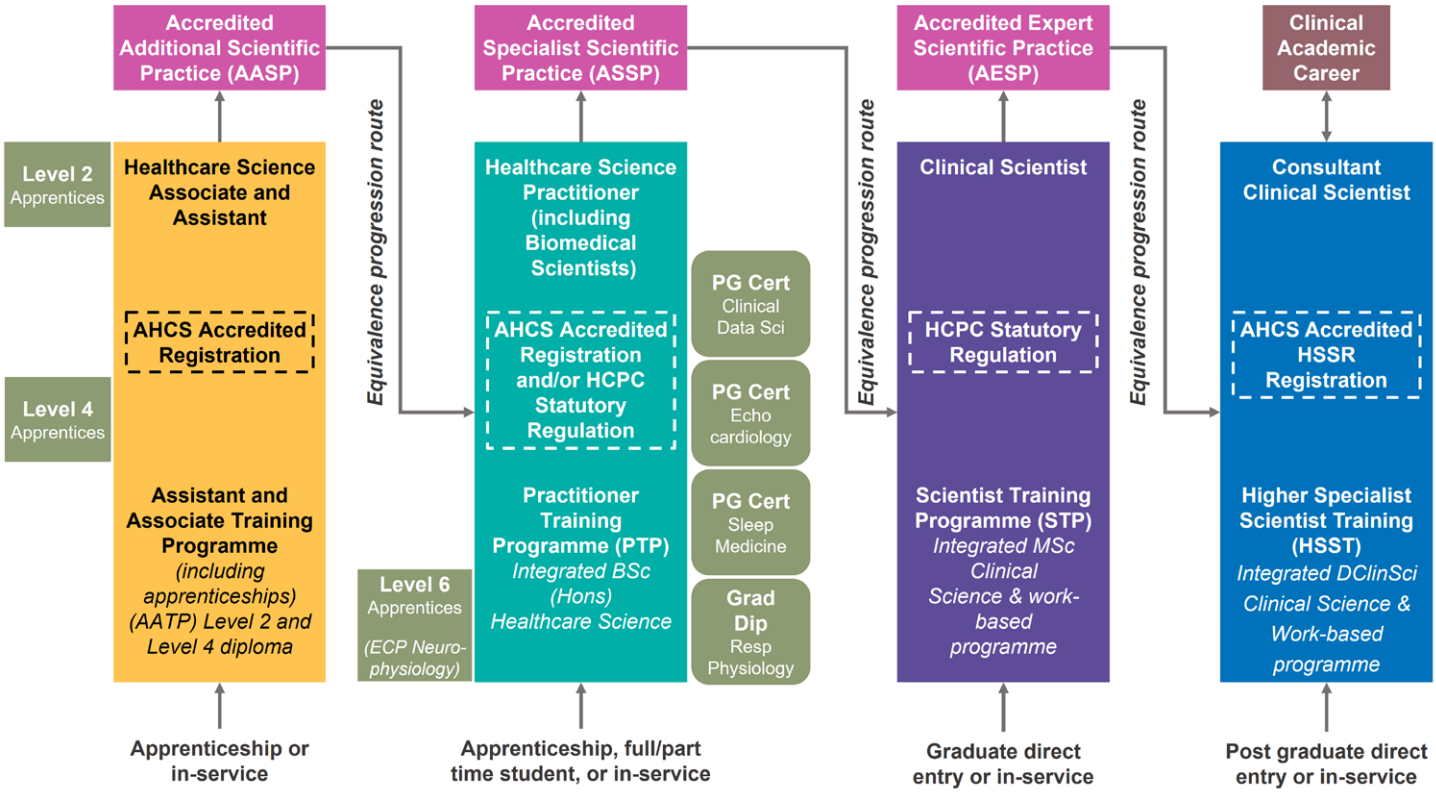
Radiotherapy clinical technologists inspecting components of a radiotherapy linear accelerator treatment machine

Useful links for healthcare science

Career Framework for healthcare scientists - The Academy For Healthcare Science (ahcs.ac.uk)

2023.03.15 JF healthcare science version 2 (skillsforhealth.org.uk)

NHS England healthcare science



NHS England Modernising Scientific Careers (MSC) created a career pathway for healthcare scientists. The career pathway diagram above is derived from the AHCS version July 2017 and presentation at the East of England HCS 2023 conference March 2023.

Glossary

AHCS	Academy for Healthcare Science
CPD	Continuing Professional Development
EIA	Equality Impact Assessment
HCPC	Health and Care Professions Council
HCS	Healthcare Science
HEI	Higher Education Institution
HSSR	Higher Specialist Scientist Register
HSST	Higher Specialist Scientist Training
IBMS	Institute of Biomedical Science
LDA	Learning Development Agreement
LEP	Local Education Provider
LTFT	Less than Full Time
MSC	Modernising Scientific Careers
NHSE	NHS England
NSHCS	National School of Healthcare Science
PTP	Practitioner Training Programme
STP	Scientist Training Programme

Front cover image: Clinical scientist and trainee clinical technologist from diagnostic radiology and radiation safety specialism testing a computed tomography x-ray system.

NHS England Midlands

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