

Evidence Brief: Digital skills development

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Produced by the Knowledge Management team Evidence Briefs offer an overview of the published reports, research, and evidence on a workforce-related topic.

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Key publications – the big picture

[Independent investigation of the NHS in England](#)

Department of Health and Social Care, September 2024
Lord Darzi's report on the state of the National Health Service in England.

[Which technologies offer the biggest opportunities to save time in the NHS?](#)

The Health Foundation, April 2024

See section [5. What challenges do staff face in using technology?](#)

Survey respondents were asked to choose up to five main barriers to using technologies effectively that they have encountered in their work. More than half of respondents chose a lack of IT support and expertise (55%) and a lack of funding to implement new technologies (53%). Other commonly cited challenges were poor internet connectivity (41%) and not having the right equipment (37%), as well as difficulties with passwords, permissions or access (36%) (see Figure 4). This suggests major barriers that include underlying infrastructure and capability, as well as implementation and usage.

[Digital transformation in the NHS: Government Response to the Committee's Eighth Report](#)

Health and Social Care Committee, September 2023
See *Training and the Role of the Workforce*

[Inclusive digital healthcare: a framework for NHS action on digital inclusion](#)

NHS England, September 2023
See section: *Skills and capability*

The actions here are intended to ensure that both staff and members of the public have the skills to use digital approaches

and that health services respond to the capabilities of members of the public.

[The UK workforce digital skills gap](#)

FutureDotNow, July 2023

Technology is at the heart of realising the UK's productivity strategy, but we are leaving people behind. There are significant Essential Digital Skills gaps across the working population, in every sector, nation and region, and in every age group. (*UK workforce wide, not healthcare specific*)

[Digital transformation in the NHS](#)

Health and Social Care Committee, June 2023

1. The Department of Health and Social Care (the Department) has identified digital transformation of the health service as a "top priority" for itself and NHS England.¹

See [4 Training and the role of the workforce](#)

38. The Department recognises that it will need to improve digital skills in the health and social care workforce if digital transformation is to be a success. It says:

To achieve digital transformation, we need to build general digital literacy, expert digital skills, and digital leadership in the health and social care workforce. This includes leaders across the sector.⁶⁶

[NHS Long Term Workforce Plan](#)

NHS England, June 2023

This plan sets out strategic direction for the NHS workforce, with three clear priority areas; train, retain and reform. The mental health workforce is identified throughout the plan.

"Genomics and artificial intelligence (AI) in particular will transform our ability to prevent, diagnose, treat and manage disease, supporting a shift towards better prevention of disease and more personalised care outside hospital. Harnessing these opportunities requires NHS staff to continue to build digital skills

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and capabilities and will change ways of working, releasing staff time to focus on patient care. With strong local leadership and management, combined with enabling technology, the use of more diverse roles will change the skills required to meet patient needs and will expand the capacity of community services to deliver this type of care.”

[Topol Review: Progress on the recommendations](#)

Health Education England, February 2023

Published in 2019, the Topol Review presented a compelling vision for preparing the healthcare workforce to deliver the digital future, where technology can help address the big healthcare challenges, through augmenting the workforce, driving productivity, and ultimately releasing more time to care for patients. The COVID-19 pandemic accelerated changes in the way care was delivered beyond our expectations, transcending digital transformation to become a top priority for NHS policy makers and leaders, demonstrated at the peak of the pandemic where 70% General Practitioner consultations took place either online or by telephone, compared to 30% consultations prior to the pandemic (Royal College of GPs, 2021). This has presented both opportunities and challenges for delivering the digital future in the context of the Topol Review recommendations.

[Digital transformation](#)

NHS Digital, January 2023

We’re using technology to help health and care professionals communicate better and enable people to access the care they need quickly and easily, when it suits them. From websites and apps that make care and advice easy to access wherever you are, to connected computer systems that give staff the test results, history and evidence they need to make the best decisions for patients, we’re working smarter to provide better care than ever before. The NHS Long Term Plan (2019) underpins the importance of technology in the future NHS;

setting out the critical priorities that will support digital transformation and provide a step change in the way the NHS cares for citizens.

[How we can support digital inclusion](#)

NHS Digital, January 2023

Health and care staff do not always have knowledge and confidence in using digital health resources themselves. This means that they are unlikely to act as digital champions and recommend digital tools to their patients. This can be one of the biggest barriers to digital inclusion.

[Digital skills assessment tool](#)

Health Education England, (no date)

A new digital skills assessment tool has been developed for use by the wider NHS and social care workforce. It is an interactive online assessment tool that allows people to answer a set of questions to determine their current digital literacy levels and help identify areas of learning need. Once an individual has completed the self-assessment questionnaire, they will be directed to relevant learning resources to help them develop their skills in specific areas.

[Harnessing digital technologies for workforce development, education and training: an overview](#)

Health Education England, November 2022

The profile of the health and care workforce needs to change significantly to meet demand, enabling the delivery of services in a digitally enabled environment. It is predicted that “in the next decade the NHS workforce needs to grow twice as fast and the social care workforce four times as fast as in the previous decade to meet demand.” More than 50% of today’s workforce will still be working in 2032. Policy makers and leaders need to maximise digital technologies to:

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- take a system-wide approach to workforce planning and supply
- transform the delivery of education and training
- upskill the existing workforce
- inform clinical decision-making
- design and deliver personalised healthcare services

[A plan for digital health and social care](#)

Department of Health & Social Care, June 2022

To equip the adult social care workforce with the right skills and support to embed digital ways of working, and align with wider workforce ambitions, we:

- will provide a digital learning offer that includes accessible training and online resources over the next 3 years. In March 2022, we published a digital skills framework alongside a collection of digital skills training resources for social care staff. We are finalising the framework and implementing a self-assessment tool to sit alongside. Social care staff will be supported via digital skills training such as the NHS Digital Academy
- working in partnership with Skills for Care, the National Care Forum, Digital Social Care and Cosmic, this year we have delivered 2 free training programmes to support social care professionals to develop their skills and help drive digital transformation and change across the sector. We are now working to formally evaluate the training to help shape a scaled-up future digital learning offer

[Video] [Preparing staff for the digital NHS of the future](#)

The King's Fund, December 2021

In this session, we examined how we can bring staff on board and help them understand and demystify the process of implementing data-driven solutions on the ground. Watch now to hear the practical, tangible benefits AI technology brings for NHS staff and to learn how data analytics can transform every aspect

of health care, from preventing medical harm to helping a trust define what it wants to focus on, to better service integration at the integrated care system level.

[Putting data, digital and tech at the heart of transforming the NHS](#)

Department of Health & Social Care, November 2021

The extent of the changes envisaged by this report should not be under-estimated; they get to the heart of how the centre of the NHS operates, and critically the culture, skills and capabilities, incentives and operating processes in place. It will be tempting to focus on the organisational consequences. However, implementation will fail unless the accompanying enablers for change are followed through. As such, the change management effort is significant [...].

[NHSX Adult Social Care Technology and Digital Skills Review](#)

Ipsos MORI, November 2021

To help speed up the digital transformation of adult social care (ASC), NHSX recently commissioned reviews of the current extent of digital technologies and digital skills in the sector and how both could be scaled up. The reviews' findings and recommendations are summarised in this chapter.

[Digital skills gap in the healthcare sector: Technical report](#)

Coventry University, October 2021

This report focuses on how higher education providers can engage with healthcare sector management to identify current and emerging digital skills gaps, as well as opportunities for supporting transformative change. Various skills gaps are identified among front-line healthcare practitioners, senior-management and back-end officers (staff who analyse digital data collected). Senior management plays a key role in taking the digital revolution forward. However, research has found that management groups generally lack sufficient understanding on

the value and application of digital technology for effectively guiding and driving digital transformation. Front-line practitioners who are dealing with patients on a daily basis need to be equipped with sufficient knowledge and skills on how they can use the data collected (Castle-Clarke and Imison 2016). Moreover, they are expected to take an active role in effectively educating and supporting patients in adopting and persistently using digital tools for best results (Castle-Clarke 2018).

[Developing the digital skills of the social care workforce](#)

Nuffield Trust, September 2021

This report presents findings relating to the experience and skills development of care staff using digital technologies in domiciliary care. It describes the key benefits and challenges of upskilling staff through digital innovations, and offers ideas on how to maximise the potential for digital tools to aid skill development in the digital skills of the social care workforce. It also makes the case for more investment and joint working to ensure that the use of digital health technologies in social care settings is seen as a joint responsibility and priority between health and social care services.

[What skills do we need to make digital transformation work in the NHS?](#)

NHS Confederation, May 2021

Many enter the health service because it is a caring profession. Nurses may value the opportunity to build a direct relationship with a patient as they take them through tests, answering questions or providing reassurance as they go. If they're going to be logging into an IT system to view a patient's pre-submitted test results instead, will that feel as rewarding? What additional skills will be needed to ensure nurses are equipped to 'coach' patients in how to use remote tests and to view and analyse the test results in the system?

This is as much about addressing skills gaps as it is about understanding patient needs and staff motivations. Soft skills and intuitive, visual ways of judging a person's overall wellbeing in person are woven into the fabric of current service provision and it's hard to imagine a time when that wouldn't be the case. The future is not about digitising everything but about understanding where technology can help us be more efficient and responsive.

[Data Driven Healthcare in 2030: Transformation Requirements of the NHS Digital Technology and Health Informatics Workforce](#)

Health Education England, March 2021

The COVID-19 pandemic in 2020 has forced people to work from home and deliver services, and also think differently about how they can sustain remote service models to deliver care to patients safely. This has required a cultural step change in the thoughts, behaviours and attitudes of workforce and patients alike, in adopting and adapting to digital innovation. Embedding innovation around digital technology in healthcare, as was seen during the pandemic, and ensuring future sustainability will require ongoing funding, the necessary technical infrastructure, and a digital and data-literate healthcare workforce. It also requires investment in – and professional recognition of – a staff group whose area of work is primarily focused on digital technology and health informatics. This report aims to help understand the demand for this staff group and how the NHS can invest in the necessary job roles and skills to build and sustain a digitised NHS.

[Digital Inclusion in Health and Care: Lessons learned from the NHS Widening Digital Participation Programme \(2017-2020\)](#)

Good Things Foundation, September 2020

[Chapter 7: Upskilling the health and care workforce] As part of the NHS Widening Digital Participation programme, several pathfinders explored ways to upskill local practitioners in health,

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care, and community services. Sometimes this was a focus from the outset but sometimes, the need for upskilling practitioners only became apparent as pathfinders faced reluctance or resistance from staff to use digital tools.

[The Topol Review: Preparing the healthcare workforce to deliver the digital future](#)

Health Education England, February 2019

For technology to be of maximum value to the NHS, the entire healthcare workforce will need to be supported to work in this technology-enhanced environment.

'Healthcare workforce' in this report is taken to encompass scientific, therapeutic and technical disciplines, as well as managers and commissioners alongside clinical staff. Almost all of the healthcare workforce is likely to be affected and should all be offered the opportunity to develop a broad scope of digital and genomic literacy. Developing the digital and genomic literacy of the existing healthcare workforce is as important as the education and training of those at the start of their careers. HEE's workforce strategy calculates that more than 50 per cent of today's workforce will still be working in the service in 15 years' time and most are, at best, self-taught in digital technology.

Case Studies

[Why are digital skills important for the medical generalist?](#)

NHS England, May 2024

Stepping into the world of healthcare as a junior doctor in the modern day can be a daunting feat. The post Covid era coupled with the rise in the ageing population has led to a large multimorbid population who have complex health and social care needs. In today's digital age, being a competent clinician requires more than just medical expertise - it demands a

proficiency in digital skills and a generalist outlook that focuses on holistic patient care, streamlines processes, and drives digital innovation.

[Understanding the digital learning needs of the NHS workforce in England](#)

NHS South, Central and West, 2024

From January to March 2024, a diverse team from across NHS SCW carried out a learner needs analysis of the NHS workforce.

[The importance of trust leadership teams in the digital transformation](#)

NHS England, no date

Ayesha Rahim, Chief Clinical Information Officer at Lancashire and South Cumbria NHS Foundation Trust, explains why clinicians and clinical leaders are integral to achieving "What Good Looks Like" for digital transformation.

[Embracing new technology and new ways of working in South Tyneside and Sunderland](#)

NHS England, no date

Both the Sunderland GDE and South Tyneside GDE 'Fast Follower' programmes have delivered against all objectives to time and budget, endorsed by NHS Digital and NHSX. This includes HIMSS Level 7 Electronic Medical Record Adoption Model (EMRAM) accreditation for Sunderland Royal Hospital (now the only hospital in the North of England to achieve such status) and the first to achieve GDE objectives. The GDE programme and initiatives were deployed trust-wide.

[Equality, diversity and inclusion within the digital workforce](#)

Health Education England, 2023

Health Education England seek to embrace a workforce that is representative of the diversity found in the communities that we serve and demonstrate our commitment to diversity and

inclusion for our workforce, the way we manage our business and our influence with stakeholders. We know that a diverse and inclusive workforce can help us to develop new ways of thinking leading to improvement and innovation in the way we work. For us, it is vital that all colleagues, and the learners we support, are treated fairly and are enabled to reach their full potential. The Digital Readiness Team shares this commitment to equality, diversity and inclusion and it is integral to our work. For each project we consider and complete an Equality Impact assessment to ensure that our processes and products are inclusive and do not disadvantage any vulnerable groups or people with protected characteristics. The following are just a few practical examples of the work we are doing.

[Responding to the digital skills gap in healthcare – a case study](#)

Institute of Coding, October 2020

The Institute of Coding, Newcastle University and Health Education England have co-developed a Health Informatics CPD programme for healthcare professionals

The Star for workforce redesign

More resources and tools are available in [the Star](#). Search for “digital skills”.

National Data Programme

Workforce, Training and Education staff can look at the [National Data Warehouse \(NDL\)](#) SharePoint site to find out more about datasets and Tableau products.

Published Peer Reviewed Research

Barriers and facilitators

[Barriers and facilitators to use of digital health tools by healthcare practitioners and their patients, before and during the COVID-19 pandemic: a multimethods study](#)

BMJ Open 14(3), 2024

To explore how healthcare practitioners (HCPs) made decisions about the implementation of digital health technologies (DHTs) in their clinical practice before and during the COVID-19 pandemic.

[Digitizing nursing: A theoretical and holistic exploration to understand the adoption and use of digital technologies by nurses](#)

Journal of Advanced Nursing 79(10), 2023

With healthcare undergoing rapid digitalization, the effective integration of new technologies is crucial for nursing professionals, who form the largest group in the healthcare workforce. However, barriers within the nursing profession may impede digitalization efforts, leading to under utilization of available technologies and missed opportunities for enhancing healthcare quality and population health.

Current competencies

[Digital Health Competencies Among Health Care Professionals: Systematic Review](#)

Journal of Medical Internet Research 24(8), August 2022

The different areas of competencies investigated to date might be considered while designing curricula for undergraduate, postgraduate, and continuing education processes. From the perspective of researchers, these competencies may drive the development of competence assessment tools, given the lack of

validated instruments in this field, identifying more objective measures in addition to those based on self-perception. Furthermore, researchers should consider moving attention from the self-rated technical competencies to those embodying a patient-centered digital health care approach and related aspects that might affect the use of digital technologies.

[A Digitally Competent Health Workforce: Scoping Review of Educational Frameworks](#)

Journal of Medical Internet Research 22(11), November 2020
Of the 30 frameworks included in this scoping review, a majority target nurses, originate from high-income countries, and have been developed using an iterative approach. Our analysis of digital health competency frameworks can help inform the development of future digital health training programs for health care workers. Existing frameworks largely focus on the development of basic IT skills, proficiency in managing health-related information and digital communications, and awareness of ethical, legal, privacy, and security implications relating to IT. Future frameworks and training programs need to take into consideration the evolving nature of digital health and have to be able to incorporate upcoming digital trends, such as artificial intelligence and robotics.

[Digital health competencies for primary healthcare professionals: A scoping review](#) Abstract only*

International Journal of Medical Informatics 143, November 2020
There are three important knowledge and research gaps regarding digital health competencies in primary care: how to include competencies in primary care/family medicine curriculum, the need to obtain strong positive evidence about the use of digital health technologies, and the need for wider digital health support, beyond training and education.

Digital health education

[Pilot implementation of a telehealth course for health professions students](#)

BMC Medical Education 24(1), 2024

This study examined the level of technology proficiency amongst healthcare professions students. Additionally, the study provides an evaluation of the pilot implementation, as well as the effect of a 7-module telehealth course on the level of adoption and future use of telehealth amongst future Australian healthcare workforce.

[Genotes - a 'just-in-time' genomics education resource co-designed with clinicians](#)

BMC Medical Education 24(1), 2024

Powerful new genomic technologies are transforming the way healthcare is delivered, shaping medical practice across all specialties. In this rapidly changing landscape, there is an urgent need to equip the clinical workforce with knowledge and skills to navigate the new healthcare terrain. Co-design of healthcare resources with end users is increasingly gaining traction as a method of ensuring that educational content and delivery are tailored to users' needs, increasing likelihood of use and resulting in better outcomes for patients. Here we describe the co-design and ongoing co-creation of GeNotes - an NHS England National Genomics Education flagship online resource providing genomics education at the point of patient care.

[The right care in the right place: a scoping review of digital health education and training for rural healthcare workers](#)

BMC Health Services Research 24(1), 2024

Digital health offers unprecedented opportunities to enhance health service delivery across vast geographic regions. However, these benefits can only be realized with effective capabilities and clinical leadership of the rural healthcare workforce. Little is

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known about how rural healthcare workers acquire skills in digital health, how digital health education or training programs are evaluated and the barriers and enablers for high quality digital health education and training.

[NHS knowledge and library services in England in the digital age](#)

Health Information and Libraries Journal 39(4), December 2022
This article explores initiatives on resource discovery as well as the need for system-wide partnership working to ensure that biomedical knowledge in computable form is findable, accessible, interoperable and reusable. Low levels of health and digital literacy pose a significant barrier to using health information and accessing health services. A range of interventions are aimed at enhancing citizens' digital and health literacy skills. The education and life-long learning needs of the knowledge and library services workforce are considered. Working with CILIP and higher education institutions, HEE delivers a range of educational offers through its Learning Academy. As Artificial Intelligence and automation are implemented in health systems, knowledge and library staff form a crucial bridge between technology and those who use it.

[Health Professional Digital Capabilities Frameworks: A Scoping Review](#)

Journal of Multidisciplinary Healthcare 13, December 2022
This scoping review confirms the assumption that digital skills will empower all healthcare stakeholders is incorrect. This review also draws attention to the need for more research to enable digital healthcare systems and services to be designed to realize complex human behaviors and multiple person-centered care requirements. Now more than ever, it is imperative to align healthcare capabilities with technologies to ensure that the practice of person-centered digital healthcare (PCDHc) is the empowering journey for the healthcare user that theory implies.

[Digital health education: the need for a digitally ready workforce](#)

Archives of Disease in Childhood - Education and Practice 108(3), June 2022

This article explains the importance of digital health education, lists accessible resources and provides examples of health apps that can be recommended.

[Digital health: a neglected part of health curricula?](#)

Future Healthcare Journal 9(1), March 2022

The utilisation of digital health is advancing rapidly, in part, accelerated by the current pandemic. HCPs will thus need to be competent in using and interpreting information from these technologies, as well as be duly equipped to deal with any challenges that may result. Despite this, digital health education in the UK remains highly varied, and the point at which practitioners should develop these critical skills remains unclear and under-researched. What is clear is that early development of such competencies provides a strong foundation for future clinical practice, particularly if developed as a continuous, multidisciplinary curriculum around existing NHS digital capabilities frameworks. Such a curriculum would undoubtedly provide a coherent approach across undergraduate and postgraduate education, and a better understanding of the current provisions and challenges of digital health education is essential if we are to better prepare the next generation of HCPs for the digital future.

[The NHS Digital Academy – learning from the past to look ahead](#)

Future Healthcare Journal 7(3), October 2020

There are three key areas which will need to be addressed to ensure sustainability of the academy but also to have a positive impact on the NHS. Firstly, to build a strong, diverse and proactive talent pipeline. Secondly, to ensure alignment with mainstream NHS leadership development. Lastly to coordinate opportunities linked to professionalism for the whole digital

workforce as well as those who have a need for digital knowledge and development. The academy needs to be representative of the workforce and also the different settings the NHS operates in including mental health, community and social care. The academy will provide a host of learning opportunities for all levels and one that reaches a far larger number of people through more open source and easy to access development opportunities.

Digital literacy

[Improving nurses' digital literacy and engagement with digital workflows through a data-driven education model](#)

Nursing Management 31(3), 2024

This article describes how applications extracting data from the EPR system are used to identify nurses' digital literacy training needs and how a team of digital clinical practice educators delivers targeted educational strategies to meet those needs.

[Fostering innovation and sustainable thinking in surgery: an evaluation of a surgical hackathon](#)

Annals of the Royal College of Surgeons of England 106(6), 2024

Surgery represents a major source of carbon emissions, with numerous initiatives promoting more sustainable practices. Healthcare innovation and the development of a digitally capable workforce are fundamental in leveraging technologies to tackle challenges, including sustainability in surgery.

[Mentors' and supervisors' perspectives regarding newly qualified nurses' practice in digitally enabled workplaces: A qualitative study](#)

International Journal of Nursing Studies 162, 2024

Contemporary healthcare environments are becoming increasingly reliant on digital health technologies, presenting new

opportunities and challenges for the nursing profession and nurses across practice settings and roles. Little is known about newly qualified Canadian nurses' experiences as they transition from academic settings to digitally enabled healthcare workplaces.

[Nursing students' preparedness for the digitalised clinical environment in Australia: An integrative review](#)

Nurse Education in Practice 75, 2024

The aim of this integrative review is to examine the literature on nursing students preparedness for the digitalised clinical setting. BACKGROUND Digital literacy skills ensure nursing students can provide quality and safe care to patients in a digitalised clinical setting. DESIGN Integrative review of the literature

[Digital capability: An essential nursing skill for proficiency in a post-COVID-19 world](#) Abstract only*

International Nursing Review 70(3), 2023

We explored the importance of digital technologies to health responses during the COVID-19 pandemic. The benefits, challenges and barriers to developing digital capabilities are identified, and strategies to establish enduring digital proficiency among nurses and healthcare colleagues gained during the pandemic are canvassed.

[Factors influencing student nurses' readiness to adopt artificial intelligence \(AI\) in their studies and their perceived barriers to accessing AI technology: A cross-sectional study](#) Full text

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Nurse Education Today 130, 2023

With the projected significant increase in the use of AI in nursing education, it becomes vital for nurse faculty to adequately equip student nurses with the necessary competences to effectively utilize AI in their studies. Ensuring that student nurses are

prepared and ready to embrace AI technology is imperative for their successful integration into the healthcare workforce.

[Digital Fellowships: Inspiring use of contemporary technologies in applied healthcare](#)

NPJ Digital Medicine 6(1), 2023

The adoption of digital technologies in healthcare, accelerated by the COVID-19 pandemic, requires a well-prepared workforce capable of implementing those technologies. Here, we examine the role and impact of digital fellowships in facilitating digital transformation in healthcare systems. Digital fellowships are structured educational programmes designed to equip healthcare professionals with advanced digital skills. Focusing on UK-based initiatives like the Topol Digital Fellowship and the Fellowship in Clinical AI, we explore their efforts to prepare healthcare leaders for digital and AI adoption. Each fellowship programme provides participants with hands-on experience in digital healthcare projects and fosters interdisciplinary collaboration and post-fellowship support. We discuss how these fellowships contribute to staff retention by diversifying professional experiences and opportunities.

[A look at digital literacy in health and social care](#)

British Journal of Cardiac Nursing 12(9), September 2021

It is essential that developing digital literacy is not seen as a one-off initiative, but rather an ongoing process which should be integrated into everyday life and working. Nonetheless, digital capabilities need to be acknowledged and embedded within curricula to ensure learners enter the workforce with both the necessary skills and attitudes/behaviours. Non-professionals also need to be recruited for digital literacy and/or inducted, orientated and developed going forward in digital literacy capabilities. Organisations will benefit from an audit of existing digital capabilities in the workforce, and digital champions should be supported fully to work with staff and individuals/patients.

Ultimately, it is in all our best interests to provide the best care we can for individuals. In the case of TEL and TEC, many of us will need to embark on the development of new skills.

Digital preparedness and confidence

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on UK-based initiatives like the Topol Digital Fellowship and the Fellowship in Clinical AI, we explore their efforts to prepare healthcare leaders for digital and AI adoption. Each fellowship programme provides participants with hands-on experience in digital healthcare projects and fosters interdisciplinary collaboration and post-fellowship support. We discuss how these fellowships contribute to staff retention by diversifying professional experiences and opportunities.

Productivity

[Optimizing Nursing Productivity: Exploring the Role of Artificial Intelligence, Technology Integration, Competencies, and Leadership](#)

Journal of Nursing Management, 2024

In the rapidly evolving healthcare management landscape, technology integration and artificial intelligence utilization play pivotal roles in shaping employee productivity. This research investigates these dynamics within Riyadh Province, Kingdom of Saudi Arabia, focusing on the relationships between technology integration, the use of artificial intelligence in nursing profession, nursing workforce competencies, technological leadership, and employee productivity.

Training

[Telerehabilitation for people with physical disabilities and movement impairment: development and evaluation of an online toolkit for practitioners and patients](#)

Disability and Rehabilitation 45(11), 2023

Telerehabilitation has increasingly been used since the COVID-19 pandemic but with limited guidance available on undertaking physical assessments using remote methods. We aimed to provide such guidance by developing a Telerehab Toolkit, an online information and training resource for practitioners,

patients, and carers on telerehabilitation for people with physical disabilities and movement impairment.

Competency Frameworks

[Digital and Data Capability Framework](#)

NHS Education for Scotland, 2025

The framework is made up of 6 Capability Areas applicable to the delivery of health and social care services. Each Capability Area has a list of Capability Statements which outline a relevant set of skills, knowledge and behaviours. For each Capability Statement there are 3 Levels that give specific examples of what you should be able to do and how you should feel, for 3 increasing levels of digital capability.

[Digital skills – health informatics competency standards, frameworks and tools for healthcare professionals](#)

NHS England, May 2023

This guidance is part of the [Education and training section](#) of the [Good practice guidelines for GP electronic patient records](#).

[Artificial Intelligence \(AI\) and Digital Healthcare Technologies Capability framework](#)

NHS England, 2023

With the emergence of technologies described in the review, as well as the ongoing digital transformation we are seeing in the health system, it is important to understand the learning needs of our healthcare professional workforce in respect to digital healthcare technologies, inclusive of artificial intelligence, data driver and robotic technologies.

[Equality, diversity and inclusion within the digital workforce](#)

Health Education England, no date

We know that a diverse and inclusive workforce can help us to develop new ways of thinking leading to improvement and innovation in the way we work. For us, it is vital that all colleagues, and the learners we support, are treated fairly and are enabled to reach their full potential. The Digital Readiness Team shares this commitment to equality, diversity and inclusion and it is integral to our work. For each project we consider and complete an Equality Impact assessment to ensure that our processes and products are inclusive and do not disadvantage any vulnerable groups or people with protected characteristics. The following are just a few practical examples of the work we are doing.

[Digital literacy: existing educational resource mapping and analysis](#)

Health Education England, no date

The purpose of the report is to provide HEE with a database of tools and resources to continue its work supporting health and social care professionals to become, and remain, digitally literate. The report builds on previous research of developing a digital literate workforce that focused on (i) identifying resources and tools relevant for health and social care professionals with different digital needs and levels of competence; (ii) encouraging the leadership and culture across the health and social care sectors to support digital learning and technological innovation in service delivery; and (iii) developing digital champions within the health and social care workforce to share their digital expertise with others.

[Psychological Practitioners Digital Competence Framework](#)

Digital Health Skills, 2022

These digital competencies are applicable to all applied psychologists and psychological practitioners working online and via telephone (the core and advanced subcategories to the competencies can be found in the supplementary material).

Digital Capabilities for the Pharmacy Workforce

Health Education England, 2021

This paper describes work undertaken to relate this tool to the pharmacy workforce across healthcare settings and then signpost individuals to a range of training programmes to help improve their knowledge, skills and competencies that should support their ability to adopt and adapt to the changes in practice the digital transformation will enable. For the purpose of this work, the pharmacy workforce includes those working in general roles across multiple healthcare settings.

Digital Skills Framework (social care)

Skills for Care, 2021

The Adult Social Care Digital Skills Framework is a resource to help people working in adult social care understand and develop the digital skills they need.

The Digitising Social Care programme developed the framework in response to NHS England's technology and digital skills review. It aims to help care professionals use and benefit from digital technology in their day-to-day work, so they can provide high quality care.

Development of a digital competency framework for UK Allied Health Professionals

Health Education England, 2020

This framework has been developed to support the enhancement of digital competence (knowledge and skills associated with digital technology in practice) for all allied health professions from band 3 to band 9. It is intended to be a developmental and supportive tool that can enable all staff to meet their digital potential.

A Health and Care Digital Capabilities Framework

Health Education England, December 2017

The digital capability framework has been developed to support the improvement of the digital capabilities of everyone working in health and care. It is intended as a developmental and supportive tool that can empower and enable all staff. It is intended that anyone accessing the framework can be provided with guidance towards extending their digital capabilities to be able to provide better care in our complex, ever-changing digital world.

Essential Digital Skills Framework

GOV.UK, 2018

The framework is intended to be used by everyone in the UK engaged in supporting adults to enhance their essential digital skills. The benefits of working to a common framework include enabling progression and transferability of skills – as well as facilitating measurement. This is the first update of the Basic Digital Skills Framework since its original publication in 2015.

Digital literacy: standards and framework mapping

Health Education England, July 2017

Digital literacy capabilities, standards and frameworks that are available significantly map successfully across the HEE Digital Literacy definition and domains. Integrating digital leadership and ethics and across all domains are two potential areas that will need particular consideration by HEE when developing a capabilities framework for digital literacy.

Improving Digital Literacy

Health Education England and the Royal College of Nursing, 2017

Digital literacy is about the ability for everyone working in healthcare being able to learn, work and develop effectively in a digital workplace and society. The project aims to promote the adoption of clear education, training and development strategies that will enable this and which will also promote and support the

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adoption and spread of new technologies and techniques for the whole health and social care workforce. The Digital Literacy Project works to fulfil the requirements of the Health Education England mandate, as provided by the Department of Health, and as part of the National Information Board's Building a Digital Ready Workforce work stream.

Desktop review: Examining the extent to which employers and organisations are meeting the challenge of improving the digital literacy of their workforce

Health Education England, 2016

Digital disruption is being embraced across retail, banking and digital sectors. However, despite a number of policy commitments and initiatives, it would seem that the NHS is almost resisting digital disruption by focussing more on maintaining existing NHS workflows, rather than embracing creative applications or the potential liberation that mobile technologies can bring to practice. This could have serious consequences at both a societal and individual level in terms of health and the failure of the sector to contribute to a digital ecosystem that will equip people to 'thrive in a digital society' (Kennedy & Scott, 2016).

This competency framework has been developed for all staff working to support mothers and families across the perinatal care pathway, from preconception to postnatal care.

Literature review: Examining the extent to which digital literacy is seen as a challenge for trainers, learners and employees in the workplace

Health Education England, 2016

A lack of digital literacy development is a factor in the poor adoption of digital health technologies resulting in missed opportunities to support clients, patients and carers to self-care. To ensure that employees feel justified and empowered to use and harness digital ways of working, they need the confidence to

know that these approaches are valued by their employers as 'legitimate work activity'. Employers should not assume that younger workers have developed a rounded skill set in terms of digital literacy. Digitally savvy does not mean digitally literate. Trainers and employers need to embrace and harness the valuable resource of their employees' prior digital learning activities, thus enriching digital skills applicable in the workplace. The need for leadership and a strategic approach to digital literacy acquisition is clear.