

Digital Capabilities for the Pharmacy Workforce



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Supporting Digital Literacy in the Pharmacy Workforce

Digital transformation and improving the digital literacy of the workforce is one of the key elements of the [NHS Long Term Plan](#) with the following commitments:

- Provide **digital services and tools** to give people more control over their own health and the care they receive from the NHS
- Extend to everyone the NHS App as a new digital ‘front door’ to give people **secure digital access to their own medical records**; find trusted information about their health online; allow patients to conveniently book appointments and view test results online. In time it will also provide medical advice and consultations securely
- Give health and care staff the technology they need to help them **complete administrative tasks more quickly, freeing up time** to spend with patients
- Set standards that keep information secure and make sure NHS IT systems talk to each other to provide health and care staff with **complete access to joined up patient records**.
- A commitment to have Electronic Prescribing and Medicines Administration (EPMA) in systems in all NHS provider organisations by 2024

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Annex A contains further detail of the kinds of intervention and changes that will be delivered through digital technology.

These themes continue into the NHS People Plan which refers to:

- Digitally enabled primary and out-patient care
- A requirement for increased digital skills and data science to transform clinical services
- Data rich and digitally supported health and care services supporting the adoption and spread of scientific advances to improve outcomes for patients
- The creation of more time for clinicians through efficiencies from digitally enabled clinical pathways

In particular, the plan highlights an action to develop and integrate digital education and learning resources into academic and professional curricula. It also tasked HEE with creating a library of education and training resources to support the workforce to expand their digital skills.

In 2016 the Wachter Report, [Making IT work: harnessing the power of health information technology to improve care in England](#), addressed a range of issues concerning electronic prescribing, health records, data sharing, the need to develop “clinical informaticians” and more generally the need to raise levels of digital literacy across the professions including pharmacy.

The [Topol Review](#) also highlights the need for extensive education and training of the clinical workforce and in particular for pharmacy issues relating to robotics, health related apps (“digiceuticals”), pharmacogenetics and genomic data.

NHSX as the body created to give staff and citizens the technology they need. NHSX will deliver the [Health Secretary’s Tech Vision](#), building on the NHS Long Term Plan. The key delivery missions being:

- reducing the burden on clinicians and staff, so they can focus on patients
- giving people the tools to access information and services directly
- ensuring clinical information can be safely accessed, wherever it is needed
- aiding the improvement of patient safety across the NHS
- improving NHS productivity with digital technology

The Faculty of Clinical Informatics has been commissioned by NHSX to develop profession specific competencies for staff involved in informatics including relating to medicines. CPPE has made available learning on digital technology in health. CPPE have produced the course [‘How digital technology can transform care’](#) - the aim of the programme is to encourage people to find out more about digital technologies and to consider how to use these in supporting patients in practice.

More recently, experience from how the NHS responded to the COVID-19 pandemic, strengthened the need to broaden skills across the pharmacy workforce related to remote consultation skills in healthcare settings including community pharmacy and NHS 111. NHSE/I have published [specific guidance for clinicians and managers](#) for secondary care on this.

The [Murray Report](#) into Community Pharmacy Clinical Services identified that poor digital integration of the community pharmacy sector with the rest of the NHS created several barriers preventing the best utilisation of the current pharmacy workforce. Annex B contains specific examples of these barriers.

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The Chief Pharmaceutical Officer's Clinical Fellows produced a report in 2018 that produced guidance and recommendations for early career pharmacy professionals regarding the [delivery of data driven care](#) the content of which also provides a blueprint for the requirements of existing staff to become digital clinicians.

Identifying and meeting learning and training needs

HEE is running the [digital literacy project](#) which is about improving the digital capabilities of everyone working in health and social care. Its premise is that the best care of all individuals is only possible if these capabilities are fully developed and exploited. HEE has also produced a [self-assessment capability framework](#) to address "digital readiness". This tool contains 6 domain each with 4 levels.

- Information, Data and Content
- Teaching Learning and Self-Development
- Communication, Collaboration and Participation
- Technical Proficiency
- Creation, Innovation and Research
- Digital Identity, Wellbeing, Safety and Security

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. Those in specialist digital or informatics roles should be directed to the Faculty of Clinical Informatics.

Process

This work was completed in two stages.

Mapping the HEE self-assessment framework to the pharmacy workforce. For the purpose of mapping these domains and levels to the pharmacy workforce, the following groupings were used (Annex E)

- Pharmacy Support Staff
- Foundation Pharmacy Technician
- Advanced Pharmacy Technician
- Senior Leadership Pharmacy Technician
- Foundation Pharmacist (Newly qualified)
- Advanced Pharmacist
- Senior Leadership and Consultant Pharmacist

An estimate has been made of the level of digital literacy required for each of these groups. The full mapping, which should be looked at along with the detail within the framework is tabulated in Annex C.

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- Mapping available training courses relevant to the pharmacy workforce and the framework. A systematic trawl was carried out to identify relevant training programmes that the pharmacy workforce could access in order to address the proposed levels of digital literacy. These include a range of providers including CPPE, E-LfH, ECDL etc.

These are tabulated against the domain matrix at Annex D.

Annex A - NHS Long Term Plan - Practical priorities will drive NHS digital transformation

- Create straightforward digital access to NHS services, and help patients and their carers manage their health.
- Ensure that clinicians can access and interact with patient records and care plans wherever they are.
- Use decision support and artificial intelligence (AI) to help clinicians in applying best practice, eliminate unwarranted variation across the whole pathway of care, and support patients in managing their health and condition.
- Use predictive techniques to support local health systems to plan care for populations.
- Use intuitive tools to capture data as a by-product of care in ways that empower clinicians and reduce the administrative burden.
- Protect patients' privacy and give them control over their medical record.
- Link clinical, genomic and other data to support the development of new treatments to improve the NHS, making data captured for care available for clinical research, and publish, as open data, aggregate metrics about NHS performance and services.
- Ensure NHS systems and NHS data are secure through implementation of security, monitoring systems and staff education.
- Mandate and rigorously enforce technology standards (as described in The Future of Healthcare) to ensure data is interoperable and accessible.
- Encourage a world leading health IT industry in England with a supportive environment for software developers and innovators.

Specific examples of relevant digital themes for pharmacy

- Technical aspects
 - The use of and need for controlled language and clinical ontologies to provide structure to digital records
 - Understanding, use further development of dm+d, SNOMED, FHIR and other relevant clinical and interoperability standards
 - Interconnectivity and interoperability
 - Role based access
 - Role of the clinical safety officer in terms of digital systems
 - Information governance and Cybersecurity
- Clinical aspects
 - Patient records, SCR, Electronic Prescribing and Medicines Administration
 - Clinical Informatics
 - Pharmacogenetics, genomic profiles, risks and personalised medicines

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- Remote consultation and remote clinical assessment
- Self-management, apps, wearable technology, disease monitoring, intervention and advice/information
- Operational issues
 - EPS, hub and spoke, automation and robotics, data sharing (both governance issues as well as shared analysis)

Annex B - Murray Report Barriers to community pharmacy working in different ways to develop clinical roles

Digital Integration

Interoperability of clinical systems and read and write access to a shared clinical record is key to enable integration

Barriers	Potential Solution
<p>Pharmacy and Patient Medication Record IT systems No centralised specification for required functionality. Functionality is currently based around needs defined by a volume-based contract and doesn't support recording of clinical information and monitoring of patient outcomes. Not all current systems allow recording of the existing advanced services and do not have clinical read coding. Connectivity with other systems is limited to EPS (electronic prescription service).</p> <p>Secondary Pharmacy IT Systems A range of complementary clinical systems are used locally to meet the needs of local commissioners. All are web-based and capable of storing patient identifiable data securely. There is currently no connection to the PMR system in the pharmacy but these systems do have wider interoperability capabilities for example receiving referrals from hospitals and NHS 111 but do not providing activity reporting to GPs other than via secure NHS mail.</p> <p>NHS.uk and the NHS 111 Directory of Services Currently there are a number of databases holding information on pharmacy opening and closing times and services offered. There are contradictory and often out-of-date. NHS 111</p>	<p>Accelerate IT Interoperability Interoperable messaging systems with hospitals, GPs and integrated urgent care services will enable formal referral pathways to and from community pharmacy enabling the development of robust clinical services and freeing up capacity in the wider system. Electronic activity reporting to enable direct reporting of interventions to other health professional involved in direct care of the patient.</p> <p>Accelerate central system development Shared clinical records with read and write access to enable community pharmacy to take on a meaningful clinical role. Development of electronic shared care plans to enable community pharmacy to support implementation and prevent decline requiring admission. Electronic repeat dispensing needs to be better understood, trusted and mainstreamed to free up GP, patient and carer capacity and allow pharmacy to individualise care, reduce waste and better manage workflow releasing capacity for more clinically focused work.</p>

services find it very difficult to map dispositions to pharmacy endpoints because of variability of local commissioning between CCGs and local Authorities mean there is poor understanding of the service when it is available.

Summary Care Record (SCR)

Increasing, but currently small, numbers of pharmacies access the SCR. There is no write access to this or way of transmitting information back to the GP or other clinicians through this route. The standard SCR does not contain any diagnosis information and, in some cases, no information on discontinued medication. This is not integrated into pharmacy systems and privacy officer is required to manually review certain types of record access.

Prescription ordering by patients

Currently, except for Repeat Dispensing (12% of electronic prescription items, 9% of total), each prescription needs personally authorising by a GP upon request by a patient through either the surgery web portal or manually leading to system burden that is managed by pharmacy to the detriment of clinical services. Managed repeats services have led to distrust of pharmacy providers driven by a volume-based contract.

NHS Mail and the Companies Act

The legal requirement to have registered office and number on each email means that companies have been unable to enable nhs.net email to be used in their pharmacies. Whether NHSMail2 will solve this is by no means certain.

Falsified Medicines Directive (FMD)

Implications for change in system and processes in community pharmacy, many unknowns will add to workload and needs integrated IT solutions to “decommission” each unit of medicine supplied.

Standards for core pharmacy systems

Agreement with pharmacy system suppliers of functionality availability within all systems to record and report activity and outcomes

Annex C - Mapping of Pharmacy Workforce Groups to the [HEE Digital Literacy Self-assessment framework](#)

	Domains	Levels	Pharmacy Support Staff	Foundation Pharmacy Technician	Advanced Pharmacy Technician	Senior Leadership Pharmacy Technician	Foundation Pharmacist	Advanced Pharmacist	Senior Leadership and Consultant Pharmacist
1	Information, Data and Content The ability to find, manage, organise, store and share digital information, data and content	1							
		2	x	x					
		3			x	x	x	x	
		4							x
2	Teaching Learning and Self-Development The ability to use digital technologies and tools for personal learning and professional development	1							
		2	x	x					
		3			x		x		
		4				x		x	x
3	Communication, Collaboration and Participation The ability to use a wide range of digital technologies to communicate with people	1	X						
		2		x			x		
		3			x			x	
		4					x		x

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	and to understand the different nature, purpose and function of different methods of digital communication, acting accordingly and appropriately								
4	Technical Proficiency The ability to use a wide range of technical devices in a personal and professional context both individually and with others	1							
		2	x						
		3		x	x	x	x	x	x
		4							
5	Creation, Innovation and Research The ability to create new digital resources and/or curate existing ones working individually or in collaboration with others	1	x	x					
		2			x				
		3				x	x	x	x
		4							
6	Digital Identity, Wellbeing, Safety and Security The ability to develop, promote and safeguard appropriate digital identity(-ies) that support a positive personal and organisational reputation	1							
		2	x	x	x		x		
		3				x		x	x
		4							

Annex D - Mapping of available training courses to domain levels in Annex C

Domain 1: Information, Data and Content

Course	Course Provider	Course Title
a	e-Learning for healthcare	Data Security Awareness Level 1
b	ICDL Europe	ICDL Workforce
c	ICDL Europe	ICDL Professional
d	CPPE	How digital technology can transform care
e	CPPE	Summary Care Records
f	CPPE	Apps for pharmacy
g	CPPE	The General Data Protection Regulation - making it work
h	Southampton Medicines Advice Service	Critical Evaluation
i	e-Learning for healthcare	Research Audit and Quality Improvement Programme
j	Oxford CEBM	Various programmes at Oxford CEBM
k	RxInfo - ADIoS / Define / Refine / Vend	Regional Training Session
	Optum	Scriptswitch Training
	First Databank	OptimiseRx Training
	NHSBSA	ePACT2 Training
	PINCER	Contact local Academic Health Science Network

Course	a	b	c	d	e	f	g	h	i	j	k
Levels											
1 - I know that there are many different digital tools and technologies that can be used to create, source, share, modify, manage and store information, data and content	•	•					•				
2 - I can use digital tools to search and locate information, data and content through a simple search in digital environments e.g. search engines and I can navigate		•		•	•	•	•	•			

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between information, data and content in different digital environments											
3 - I am confident and capable in the use of a wide range of digital devices, technologies, software and applications in order to create, access, edit, monitor, store and share information, data and content for personal and/or professional purposes			•	•				•	•	•	•
4 - As an expert user, I take a lead in modelling & promoting the use of a wide range of specialist, new & emerging digital devices, technologies, software & applications in order to create, access, edit, monitor & store information, data & content			•	•					•	•	•

Domain 2: Teaching Learning and Self-Development

Course	Course Provider	Course Title
a	e-Learning for healthcare	Health Informatics Programme
b	NHS Digital	NHS Digital Academy
c	FutureLearn	Digital Skills: Digital Skills for Work and Life

Course	a	b	c
Levels			
1 - I know that there are many different resources, tools, platforms and	•		•

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technologies that can support learning and self development			
2 - I can create an account, log in and participate in e-learning/online learning activities with little to no assistance	•		
3 - I can confidently and capably use a wide and flexible range of digital tools and technologies to support my own personal and professional learning and development needs			
4 - I can confidently and proficiently teach, coach, mentor, train using a wide and flexible range of digital methods, tools and technologies suited to the needs of my learners		•	

Domain 3: Communication, Collaboration and Participation

Course	Course Provider	Course Title
a	Microsoft	Microsoft Digital Literacy Course (Modules 1-4)
b	Microsoft	Microsoft Digital Literacy Course (Modules 5-6)

Course	a	b
Levels		
1 - I know that there are different methods of digital communication and that they can be used for different purposes and different audiences		
2 - I can use a range of different methods of digital communication e.g. email, webinars	•	
3 - I communicate confidently and capably using a wide range of different methods of digital communication in ways that are appropriate for different purposes and audiences		•
4 - I can confidently and capably communicate and		•

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collaborate digitally, using appropriate methods, tools and tones suited to purpose and audience in ways that always respects differing needs, expectations, cultures and experiences		
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Domain 4: Technical Proficiency

Course	Course Provider	Course Title
a	Health Education England	IT Skills Pathway: Digital Skills for the Workplace
b	ICDL Europe	Digital Citizen
c	British Computer Society	ITQ syllabi level 1
d	ICDL Europe	Computer & online essentials
e	ICDL Europe	Computer essentials
f	ICDL Europe	Online essentials
g	British Computer Society	ITQ syllabi level 2

Course	a	b	c	d	e	f	g
Levels							
1 - I know that there are many different devices, technologies, software and applications that can be used for wide variety of digital activities			•				
2 - I can start up/log into more than one digital device e.g. smartphone, desktop, laptop, tablet	•	•					
3 - I am confident and proficient in the use of a wide range of digital devices, technologies, software and applications				•	•	•	•
4 - I am an expert user of a wide range of digital devices, technologies, software and applications and act as a point of contact for others in the diagnosis and resolving of technical challenges and issues							

Domain 5: Creation, Innovation and Research

Course	Course Provider	Course Title
a	FutureLearn	Social Media in Healthcare: Opportunities and Challenges
b	FutureLearn	MedTech: Digital Health and Wearable Technology
c	FutureLearn	Digital Skills: Embracing Digital Technology
d	FutureLearn	Protecting Health Data in the Modern Age: Getting to Grips with the GDPR
e	FutureLearn	Artificial Intelligence for Healthcare: Opportunities and Challenges

Course	a	b	c	d	e
Levels					
1 - I know that there are a wide range of digital devices, technologies, software and applications that can be used to create new digital resources, media and information			•		
2 - I can use a range of digital devices, technologies, software and applications to create and/or edit, modify, refine, improve and integrate items of new content and information to create new and original digital resources, media, information e.g. photos					
3 - I am confident and capable in the use a range of digital devices, technologies, software and applications to create and/or edit, modify, refine, improve and integrate items of new content and information to create new and original digital resources, media	•	•			
4 - I am confident and proficient in the creation and/or editing of a wide range of media and content in a wide range of formats and modalities				•	•

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Domain 6: Digital Identity, Wellbeing, Safety and Security

Course	Course Provider	Course Title
a	e-Learning for healthcare	Clinical Risk Management Training programme (Modules 1-3)
b	FutureLearn	The Power of Data in Health and Social Care

Course	a	b
Levels		
1 - I understand why it is important to create appropriate digital identities in professional and personal contexts and why it is important to protect both my own digital identity/footprint and that of my organisation		
2 - I can create appropriate digital identities		•
3 - I have created one or more appropriate digital identities	•	
4 - I can confidently and proficiently manage, monitor and promote a variety of personal and professional digital identities		

Annex E

Pharmacy workforce group	Definition
Pharmacy Support Staff	Staff within the pharmacy (or dispensing doctor team) team who are not registered with the GPhC but have important roles in: <ul style="list-style-type: none"> the dispensing and supply of medicines or medical devices advising on the use of medicines and medical devices assisting pharmacy professionals to provide pharmacy services to individual.
Foundation Pharmacy Technician	Early years post-registration pharmacy technicians
Advanced Pharmacy Technician	Pharmacy technicians with additional post-registration qualifications or experience with more responsibilities
Senior Leadership Pharmacy Technician	Pharmacy technicians with senior or management and leadership roles

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Foundation Pharmacist	Early years post-registration pharmacists
Advanced Pharmacist	Pharmacists working beyond early post-registration experience years, practising at an enhanced through to advanced levels. Some pharmacists will undertake post-graduate modules, certificate, diploma or degree either in a generalist (e.g. primary care) or specialist (e.g. oncology, clinical education) area.
Senior Leadership and Consultant Pharmacist	Pharmacists with senior clinical, management and leadership roles.

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