Clinical informatics and digital delivery in health and care: a career framework outline for nurses and allied health professionals

September 2018
We support providers to give patients safe, high quality, compassionate care within local health systems that are financially sustainable.
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Foreword

Over recent years we have seen pioneering nurses and allied health professionals (AHPs) move into the specialist sphere of clinical informatics, either in new, ground-breaking roles or leading on the implementation of innovative digital health and care systems to benefit patients as part of their existing roles.

Staff often give improving patient safety and increasing efficiency as their reasons for moving into these roles. They may have understood how emedication and electronic patient record systems help with investigation of clinical incidents or perhaps how the use of telemedicine can increase access to specialist investigations, like remote swallowing assessments in nursing homes by speech and language therapists. It is now time for us as professionals to own and recognise the career pathway and in so doing endorse their achievements.

This framework outlines the clinical informatics career pathway within health and care settings and we will also shortly publish examples of personal career stories from some of the pioneers. These inspirational individuals come from a variety of specialties, including cancer, cardiology, and urgent and emergency care. Digital and informatics roles span the professional specialties, and these individuals also find themselves working across organisations. In the future we can build on this framework to develop an integrated career pathway encompassing social care.

We understand the drivers for all AHPs and nurses to become digitally aware and enabled; this needs to become a reality to further enable the use of information and technology in delivering excellent, safe and efficient care for the benefit of patients. The purpose of this guide is to recognise and grow the imperative for every healthcare professional to be digitally aware, while also laying out a dedicated pathway with specialist competences.
We created this framework in NHS Improvement, with engagement across the system including from Health Education England, NHS Digital, NHS England and the Royal College of Nursing. Thank you also to the clinical informatics specialists who shared their opinions and their career journeys. This is a starting point that will inform a more detailed piece of work linking recognised courses to these emerging and dynamic roles.

Ruth May
Executive Director
Nursing

Jo Fillingham
Clinical Director
Allied Health Professionals
1. Introduction

Nurses and allied healthcare professionals (AHPs) have always responded positively to external drivers to improve individual outcomes in healthcare. In digital health/informatics, they are urgently needed to lead the change to make the most of new technologies for the benefit of patients. This framework outlines a career structure for aspiring digital/clinical informatics specialists from the nursing and allied health professions and provides guidance for healthcare clinical leads on how these roles benefit clinical practice.

To begin, it is useful to define the terms used in this document:

- **Digital** refers to technology that uses electronic systems to enable care processes to be more efficient, with the aim of eliminating waste and duplication for people accessing services, carers and staff. It is characterised by less dependence on paper and a more agile approach to the management of patient records and elements of care (for example digital medication prescribing systems, telecare, wearable technology and observation systems).

- **Informatics** is the broader science related to the study of the interaction between people and information, combining information (communication, cognition, computers) and the development of information systems to support communication. Clinical informatics brings this study and science into day-to-day clinical practice – either at a single or patient service level or at a public health, population level.

The UK has many informatics roles within healthcare organisations and networks, but the varied job titles make it difficult to identify clearly the clinical roles. Using the existing information as a starting point we need to build a comprehensive career structure, outlining competencies and creating a development portfolio for maintaining skills and expertise. Expanding the group of professionals operating in the nursing and AHP, clinical and digital informatics spheres will help improve patient outcomes. This career framework offers a foundation to start this work.
How to use this framework

This framework describes digital health/informatics roles for nurses and AHPs at different levels in the current NHS career framework, together with some of the competencies and education required for each role.

It:

- provides a structure, illuminated by personal stories (for publication shortly), to enable nurses and AHPs to develop a career in digital health/clinical informatics
- will enable both clinicians and professional bodies to recognise the valuable contribution of AHPs and nurses to systems development, implementation roll out and evaluation.

The emphasis is on the clinical nature of the digital healthcare/clinical informatics nurse or AHP role and their lead on any systems alteration or improvement in this area.
Many clinical processes are moving towards more digital and/or online delivery, meaning that in the future every health professional will need to develop their digital and informatics awareness and capabilities both before registration and during their development and practice. There have been a number of professional drivers and initiatives to support professionals in developing technical skills: for example, the Royal College of Nursing (RCN) Every nurse an e-nurse initiative and the work of the Royal College of Occupational Therapists (RCOT) on informatics and digital technologies. Higher education (HE) institutions are increasingly incorporating some technological, digital and informatics skills in the undergraduate nursing and AHP programmes.

However, there is currently no consistency across professions around these competences within curricula guidance. Further, as part of identifying competences, we also need to identify and develop digital capability, which encompasses attitudes and behaviours. Without both individual and organisational culture change, we will not be able to exploit all digital technology has to offer.

We developed our framework by considering the National Information Board digital health priorities. The areas outlined here note where digital technology could have the greatest healthcare benefit:

- self-care and prevention
- urgent and emergency care
- transforming general practice
- integrated care and social care
- digital medicines
- elective care being paper free
- data availability for research and oversight, infrastructure and public trust and security.
As we developed the framework we recognised that organisations need to grow their own talent, at every level, to work in digital healthcare and inform the use of technology and informatics in practice for the benefit of patients. Therefore, rather than using specific role titles (such as chief clinical information officer), we have used the general titles ‘support’, ‘specialist’, ‘influencer’ and ‘strategic’ to identify the activities involved in the roles. This can now be used as a foundation for more detailed work.
3. Digital skills for everyone

Health Education England (HEE) defines digital literacy (for all) as those capabilities that fit someone for living, working, learning, participating and thriving in a digital society.¹ HEE leads the ‘Building a digital ready workforce’ programme, which has used stakeholder engagement and extensive research to develop a general digital capabilities framework for use across the health and care workforce.

The framework consists of six domains with capabilities broken down into levels to from relative novice to expert practice. See Figure 1 below.

**Figure 1 The six domains of person-centered digital literacy**


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Working in partnership

HEE is working in partnership with the RCN on digital capabilities. RCN has endorsed the digital literacy framework, which in turn supports the RCN’s ‘Every Nurse an e-Nurse’ workstream and ‘Leading Change Adding Value’: the national framework for nursing, midwifery and care staff. The NHS Improvement nursing and AHP team have developed this specialist framework to help our workforce understand how a specialist role can be both clinical and technology specific in clinical practice.

Together HEE and RCN published *Improving digital literacy* in 2017, which explained:

“Competence-based education has usually focused on what a professional is able to do. Competencies describe current practices in known roles. Capabilities describe new and emerging challenges. They prepare us for these rather than our ability to meet existing ones.

The digital capabilities framework applies to all registered nurses and midwives. Every nurse should be confident in their understanding and use of digital tools and technologies. The framework provides a profile for what digital professionalism should be.

Digital capabilities are not only about the individual nurse. They open the possibility of a new health and care paradigm. The promise is for a true partnership. Patients and citizens engaged and involved in their health and healthcare management.”
4. Framework overview

The framework describes:

- the activities by individuals at the four levels (support, specialist, influencer, strategic) in the domains of clinical practice, education, management, leadership and research
- the specialist education preparation required to support individuals to fulfil their role at each level
- some commonly used job titles, with a brief overview of these roles
- some descriptors that could be included in job descriptions for individuals working in clinical digital health/clinical informatics
- guidance on the internal governance structures for such individuals.

We also provide personal stories of individuals who have successfully followed a career in clinical informatics/digital health in the NHS (for publication shortly).

You can pick out the information you currently require from the framework and it discusses how generalist skills are helpful to all nurses and AHPs and will become more important over time. However, there are also specialist roles that require specific skills preparation. Some people have managed to do this for themselves through experience, but we need to use their advice and insight to create more structure for people wanting to pursue a clinical informatics career.
# Career framework for the informatics specialty

<table>
<thead>
<tr>
<th>Categories</th>
<th>Clinical practice</th>
<th>Education</th>
<th>Management and leadership</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>Consider technical devices and digital solutions to solve clinical practice problems. Understand the role of clinical algorithms in supporting decision-making.</td>
<td>Teach General Data Protection Regulation security/social media. Use elearning for personal development. Be a digital champion. Develop simple aids to help others.</td>
<td>Help clinical staff who have little digital/informatics awareness build confidence.</td>
<td>Use technology to collect and inform audit data collection.</td>
</tr>
<tr>
<td>Specialist</td>
<td>Support others in clinical practice to use technology. Build, use and edit systems to enable efficiencies in clinical practice time. Be proficient in the use of clinical algorithms and clinical decision support</td>
<td>Lead in-house training activity. Teach others to use new systems.</td>
<td>Help a department or team manage the roll out of a digital system and measure demonstrate the benefits.</td>
<td>Begin to interpret and evaluate data, presenting it as information to clinical groups.</td>
</tr>
<tr>
<td>Role</td>
<td>Description</td>
<td>Action</td>
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<tr>
<td>Influencer</td>
<td>Scale alterations to improve patient care. Present the positive changes digital systems can make to patient care.</td>
<td>Lecture in HE institutions and within organisations. Work with varied teams making connections and building interoperability options for systems. Use service improvement methodology to define and report stages of change in practice and ensure sustainability. Take part in regional governance and systems development. Inform service improvements based on data and move into active research. Influence the inclusion of informatics in future research areas.</td>
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</tr>
<tr>
<td>Strategic</td>
<td>Consultant roles working with executive teams. Explore the art of the possible. Look towards the future with the enablement of clinical technology in practice.</td>
<td>Take the professor/chair role, which may be a portfolio. Confidently teach and coach staff to develop digital technologies. Lead on a major improvement within digital health or informatics. Support the use with the organisation’s information and communications technology (ICT) specialists to design clinical technology strategy and planning for the organisation. Work in population health level. Write and gain bids that inform professional practice and improve patient outcomes based on the patients seen and the data collected. Direct research programmes or strategically influence future.</td>
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</table>
**Specialist informatics education and development**

<table>
<thead>
<tr>
<th>Support</th>
<th>Existing education preparation, HEE, NHS England and digital health resources</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- <a href="#">HEE levels of digital competencies</a> help individuals self-assess and develop their digital abilities and confidence</td>
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<tr>
<td></td>
<td>- Understand and act as a champion for the General Data Protection Regulations (GDPR)</td>
</tr>
<tr>
<td></td>
<td>- Undertake basic qualifications in the use of computer packages, such as the <a href="#">European Computer Driving License (ECDL)</a>, Word, PowerPoint and Excel software.</td>
</tr>
<tr>
<td></td>
<td>- Teach colleagues to use elearning.</td>
</tr>
<tr>
<td>Role</td>
<td>Tasks</td>
</tr>
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</tbody>
</table>
| Specialist   | • Contribute to the maintenance of the clinical algorithms and clinical decisions support systems.  
|              |   • Build your own system within a clinical area.                     |
|              |   • Work with and influence software developers to change systems to be more user-friendly for clinical staff and/or patients.  
|              |   • Teach clinicians and other staff about the uses and benefits of informatics.  
|              |   • Support the co-creation of systems for, and with, patients, staff and or the public as appropriate.  
|              |   • Support the creation and take a lead in maintaining clinical algorithms and clinical decisions support systems.  |
| Influencer   | • Consider the interoperability of different systems and develop means to enable it.  
|              | • Undertake a postgraduate qualification in informatics, use the qualification in healthcare to improve patient outcomes and drive standardisation within organisations and regionally.  
<p>|              | • Influence and lead on developing and creating clinical algorithms and clinical decisions support systems.  |</p>
<table>
<thead>
<tr>
<th>Strategic</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• As part of the executive team plan the strategy for an organisation to develop its digital maturity.</td>
<td></td>
</tr>
<tr>
<td>• Give clinical direction and insights into the practical uses of artificial/augmented intelligence.</td>
<td></td>
</tr>
<tr>
<td>• Have a keen understanding of risk and benefits to the organisation when considering any digital/technological or informatics systems.</td>
<td></td>
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<tr>
<td>• Do a masters or other higher degree in informatics/digital healthcare.</td>
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<tr>
<td>• Oversee the development and safety of clinical algorithms and clinical decision support systems.</td>
<td></td>
</tr>
<tr>
<td>• Take part in faculty and development of postgraduate education components relating to digital healthcare and clinical informatics through linking with online courses and looking at local higher education institutions and what they offer.</td>
<td></td>
</tr>
<tr>
<td>• Ensure clinical involvement in all commissioning of digital informatics systems</td>
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</tbody>
</table>
5. Informatics specialist roles: job descriptions

NHS job descriptions usually include relevant Agenda for Change terminology so that they meet the requirements of a pay band. Organisations also have their own job description templates based on their values, which often include specific projects for the post holder.

Complementing these factors, you can use the responsibilities here to create job descriptions in digital health and clinical informatics for support, specialist, influencer and strategic roles. We have based them on current UK job descriptions in the specialty and guidance from the Healthcare Information and Management Systems Society HIMSS (2016). You can use the levels outlined in the previous section to align them in job descriptions.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy/leadership</td>
<td>Serves as a strategic liaison professional representing nursing or AHP groups in the IT field. Understands the impact of regulatory changes and ensures they are interpreted to inform practice. Develops a strategy for nursing informatics and is involved and informs IT systems procurement, implementation and optimisation. Combines patient care knowledge with digital solutions at a patient population/public health level. Creates partnerships with industry to leverage best practice and evaluate technologies. Acts as a clinical expert and essential channel between the IT department and the clinical teams. Provides strategic clinical leadership around quality, safety, outcomes to systems deployed in clinical practice.</td>
</tr>
<tr>
<td>Communication</td>
<td>Develops and implements a communication strategy surrounding informatics and digital systems use in clinical practice. Communicates digital awareness, including the roll out of information and updates to colleagues.</td>
</tr>
<tr>
<td>Role</td>
<td>Description</td>
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</tr>
<tr>
<td>Change management</td>
<td>Acts as a change agent. Has developed project management skills. Has the ability to work with teams to change practice. Plans, implements and measures the overall informatics strategies to support quality care and professional practice. Sets strategic digital/clinical informatics projects, programmes and products and see them through to delivery and safe implementation.</td>
</tr>
<tr>
<td>Quality and patient safety</td>
<td>Identifies and reports risks arising from or identified by digital systems, within an organisation. Escalates risks appropriately and take timely action. Ensures standards of care are maintained. Reports patient outcomes to board and staff. Ensures the environment, technology and infrastructure are emphasised in the prevention of clinical errors and adverse events. Promotes the appropriate use of IT to improve patient safety by designing and developing, implementing and educating on decision support tools. Leads on information governance and General Data Protection Regulations (GDPR) and is able to escalate and train on updates. Understands the roles and where appropriate manages the role of clinical safety officer or holds this as a delegated authority.</td>
</tr>
<tr>
<td>Improvement delivery</td>
<td>Uses improvement methodology to demonstrate the measurable patient outcomes of any digital/informatics intervention. Collects, analysis and interprets data to inform strategic plans to improve patient safety. Translates digital health/clinical informatics projects through to delivery.</td>
</tr>
<tr>
<td>Technology</td>
<td>Collaborates with administration, medical staff and IT leaders to translate clinical requirements into coordinated specifications for new digital solutions. Defines health IT requirements for nursing and/or AHP staff and how they relate to the organisation’s strategic plan.</td>
</tr>
<tr>
<td>Analytically aware</td>
<td>Used to generating data within improvement cycles Education, training and experience of innovative ways of engaging staff in the sphere of digital informatics in</td>
</tr>
<tr>
<td>Role Description</td>
<td>Description</td>
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<tr>
<td>------------------</td>
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</tr>
<tr>
<td>Practice</td>
<td>Establishes a training strategy for staff to understand the elements of the technology they will need to use. Ensures staff have varied opportunities to engage with the technology, to ask questions and make suggestions or alterations that might help the system in clinical practice. Provides strategic direction and input into undergraduate and postgraduate programmes for digital healthcare/clinical informatics.</td>
</tr>
<tr>
<td>Research</td>
<td>Contributes and leads on professional research, outlining the roles undertaken in digital/informatics healthcare.</td>
</tr>
<tr>
<td>Analytic and judgement skills</td>
<td>Provides critical analysis and evaluation of health digital systems and recommends revisions of clinical systems and processes around workflow to ensure the achievement of positive patient outcomes.</td>
</tr>
</tbody>
</table>
## 6. Job titles explained

<table>
<thead>
<tr>
<th>Roles</th>
<th>Broad outline of responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief information officer (CIO)</td>
<td>These are usually senior staff with a specialist qualification or history of undertaking digital systems roll outs. They are also advisors on cyber-security and improved patient outcomes because of a technology system intervention. These are not typically clinical roles.</td>
</tr>
<tr>
<td>Chief clinical information officer (CCIO): this overarching term may be more useful than single professional terms such as:</td>
<td></td>
</tr>
<tr>
<td>Nursing (CNIO)</td>
<td>These are clinical executive roles that work with informatics leads to design, implement and disseminate healthcare informatics platforms to improve efficiencies in patient flow and outcomes.</td>
</tr>
<tr>
<td>Medical (CMIO)</td>
<td>These roles usually inform and influence executive teams and provide strategic leadership for clinical teams to make the changes from paper-dependent systems to a more digital solution. They are clinically grounded and consider how clinical staff can and do manage change well in practice.</td>
</tr>
<tr>
<td>AHP (CAHPIO)</td>
<td></td>
</tr>
<tr>
<td>Nursing/AHP information officer</td>
<td>These roles lead clinical teams in the workforce on clinical informatics/digital healthcare matters; for example, the changes from paper-dependent systems to a more digital solution. They are clinically grounded and consider the clinical requirements of systems.</td>
</tr>
<tr>
<td>Technical nurse/AHP builder/architect</td>
<td>These are specialist roles; they may be department managers but are nurses or AHP’s by background and can build digital systems that are used by their colleagues; for</td>
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20 | Clinical informatics and digital delivery in health and care: a career framework outline
<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Practice educator (technology training)</td>
<td>These are specialist trainers who have been trained, usually in-house or by the system supplier, in the use of a system. They train, and support others using the system and can often troubleshoot and offer suggestions for system improvement.</td>
</tr>
<tr>
<td>Technology nursing/AHP lecturer</td>
<td>These are experts who have usually done research within technology/digital and informatics in clinical settings and are teaching undergraduate and some postgraduate courses.</td>
</tr>
<tr>
<td>Floorwalker/champion and superuser roles</td>
<td>These are staff at any level who want to investigate extra skills, where their organisations invest in their training and time out to pursue this specialist advisory role. These roles are crucial in a roll-out phase.</td>
</tr>
</tbody>
</table>
7. Example governance structure

Chief executives

- Director of information and communications technology or chief information officer
- Director of nursing/allied health professionals

Strategic roles: CCIO (nursing) or chief nursing IO officer/chief AHP IO

Influencer roles

Specialist roles

Support roles
8. Building careers in clinical informatics

As part of the development of the career framework we collected personal stories that show how staff have entered informatics healthcare roles while maintaining their professional identity. Organisations cannot deploy digital systems without clinical engagement, and nurses and AHP are large workforce groups that need to lead and inform digital healthcare systems in practice. They need to be able to grow a career and use this experience for their professional revalidation.

We therefore interviewed clinical information staff and reviewed documents drawn from a range of organisations at different stages in moving towards more digitally enabled healthcare systems. The organisations include:

- Basildon and Thurrock University Hospitals NHS Foundation Trust
- Royal Berkshire NHS Foundation Trust
- Gloucestershire Hospitals NHS Foundation Trust
- University College London Hospitals NHS Foundation Trust
- West Suffolk NHS Foundation Trust.

The journeys of these staff highlight how new roles have emerged through the interest and involvement of staff in digital transformation. Some staff may have been involved with digital roll outs from the ground level – for example electronic staff or patient record systems and have begun to specialise in this area of work but many have had little formal preparation apart from ECDL and some self-teaching. Their engagement has made them more aware of the benefits of increasing their digital knowledge and combining it with their clinical skills.
9. Conclusions, recommendations and next steps

There is increasing use of technology in health and care settings and clinical staff are working in clinical informatics often leading and informing the systems changes. We want to encourage and support more people to join in this important work with the best preparation possible.

Staff are drawn to these roles to improve outcomes and safety standards. More is needed to ensure they have a formalised career pathway to guide them towards a meaningful career embracing technology, and informatics safely.

This outline framework offers a basis for a professional debate around the career structure for nurses and AHPs who wish to develop specialist expertise in clinical digital health and information. So far in the UK individuals have followed an ad-hoc career pathway; it is now time to establish a more formal framework that can be replicated across NHS and care organisations.

This approach can nurture and grow a clinical informatics or digital specialty with improved patient and public outcomes at its core. It will also help nurses and AHPs, and social care practitioners in the future, to gain confidence and appropriate qualifications that will help them with these new and emerging challenging roles.

**Recommendations**

All digital and informatics interventions need to be designed with one goal: to improve patient outcomes.

All professionals need to develop their digital skills, including security, and data input, as well as business intelligence use.

Digital/informatics specialists need a formal career framework one that uses the advanced clinical practice domains.
Next steps

We need to

• develop undergraduate programmes that outline the basics of technology, informatics and digital skills
• show how data informs healthcare decision-making and planning so that the outcomes for patients are clear.

This framework could:

• form the basis for a collaborative piece of work between health and social care professionals to have similar input and leadership
• be the first step towards a career framework covering the United Kingdom and the Republic of Ireland, initiating a four-country debate on how best to move forward and collaborate on a career pathway that is meaningful wherever you work.
Appendix 1 National drivers

The Five Year Forward View (2014) describes how professionals in the NHS need to harness the information revolution and develop capacity and capability to manage this for the benefit of patients in varied settings.

Leading Change, Adding Value – a framework for nursing, midwifery and care staff (2016) highlights the leadership potential of these professions within the digital space and highlights the important role of technology and informatics in enhancing clinical practice.

Personalised Health and Care 2020 (2014) launched the National Information Board (NIB) and a framework of 33 programmes to be delivered in partnership across health and care bodies. One of these is the HEE/RCN programme Building a digital ready workforce (see page 9), which supports those leading and delivering care to exploit the power of digital technologies.

The Wachter Review (2016) highlighted the importance of having leaders trained in clinical care and informatics (chief clinical information officers) as well as workforce to achieve the NHS’s Digital strategy. To deliver the Global Digital Exemplar (GDE) programme in England clinical staff will need to integrate clinical skills with the expertise of the informatics and digital technology workforce. In the best practice GDE sites, clinical staff have worked alongside informatics and digital experts to roll out clinical systems safely and are developing informatics and digital skills themselves.

The 2012 King’s Fund Information strategy discusses the need for clinical staff to be informed, manage and lead in this sphere.

The 2018 Topol review describes how roles will need to change and adapt to embrace the digital technology advances. It focuses on three elements: the developments around genomics, artificial intelligence robotics and the implications of having a skilled workforce plus the supporting education.
Appendix 2: Acknowledgements

We created this framework in NHS Improvement, with engagement across the system including from HEE, NHS Digital, NHS England and the RCN.

The individuals involved were:

- Dr Lesley Jones RN, Nursing fellow (digital), NHS Improvement
- Professor Dawn Dowding PhD, RN, FAAN University of Manchester
- Professor Nicholas Hardiker, University of Huddersfeild
- Diane Bullman, P2020 Building a Digital Ready Workforce Programme
- Susan Kennedy, P2020 Building a Digital Ready Workforce Programme
- Dr Natasha Phillips, Chief Nursing Information Officer, University College London Hospitals NHS Foundation Trust
- Arran Rogers, Chief Nurse Information Officer, Royal Berkshire NHS Foundation Trust
- David Davis FCPara, FFCI, National Clinical Lead – NHS111/IUC Workforce Programme/Digital Urgent & Emergency Care, NHS England
- Sam Neville, Clinical Information Lead Nurse, Basildon and Thurrock University Hospitals NHS Foundation Trust
- Jane Benfield, Chief Nurse Information Officer, Gloucestershire Hospitals NHS Foundation Trust.

With thanks also to:

- Angela Reed, Senior Professional Officer, Northern Ireland Practice and Education Council for Nursing and Midwifery
- Anne Cooper, Deputy Clinical Director and Chief Nurse, NHS Digital
- Fran Beadle, Chief Nursing Officer for Wales, National Wales Informatics Service
- Mark Fleming, Nurse Consultant, Digital Health and Care/Mental Health NHS Ayrshire and Arran
- Mark Nicholas, Chief Social Worker, NHS Digital.
• Caron Swinscoe, Senior Clinical Lead Domain G; paper free at the point of care, NHS Digital
• Ross Scrivener, Knowledge and Resources Manager, Education Learning and Development, Royal College of Nursing
• Sharon Blackburn CBE RGN RMN, Policy and Communications Director, National Care Forum.
Appendix 3: Useful information

Related organisations and publications

Digital Health (2017) NHS Digital Academy officially launched

Faculty of Clinical Informatics www.facultyofclinicalinformatics.org.uk/


NHS Digital https://digital.nhs.uk/nursing/nursing-standard-article

NHS England www.england.nhs.uk/digitaltechnology/info-revolution

NHS Improvement Learning from global digital improvements
https://improvement.nhs.uk/resources/learning-global-examples-improvement-healthcare


Royal College of Nursing (2014) Use of digital technology
www.rcn.org.uk/professional-development/publications/pub-004534

## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Ehealth</td>
<td>ehealth is the use of information and communication technologies for health.</td>
</tr>
<tr>
<td>Telecare</td>
<td>This is a term that indicates remote healthcare advice and support. It can include sensors being utilised with elderly patients in their own home as one example.</td>
</tr>
<tr>
<td>GDPR</td>
<td>General Data Protection Regulations (GDPR)</td>
</tr>
<tr>
<td>Genomics</td>
<td>This is a growing form; of molecular biology which looks at mapping of genomes which is a full set of genes.</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and communications technology</td>
</tr>
<tr>
<td>HIMSS</td>
<td>Healthcare Information and Management Systems Society</td>
</tr>
<tr>
<td>EPIC/System One</td>
<td>This is a vendor that has developed a single system that is an electronic health record, there are other companies organisations can use.</td>
</tr>
<tr>
<td>SME</td>
<td>Subject matter experts</td>
</tr>
<tr>
<td>NANDA</td>
<td>NANDA International (formerly the North American Nursing Diagnosis Association) is a professional organization of nurses standardised nursing terminology</td>
</tr>
</tbody>
</table>
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