# Accredited Informatics Skills Development Opportunities for the NHS Knowledge and Library Specialist Workforce in England

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**Abstract.** NHS knowledge and library specialists have been shown to save the time of busy healthcare professionals through the range of services they provide. To ensure continued effectiveness it is vital that appropriate learning and development opportunities are provided to maintain and enhance the knowledge and skills of this highly specialist staff group. This paper outlines recent progress in developing accredited continuing professional development opportunities for NHS knowledge and library specialists with a focus on the development of digital and data skills.

**Keywords.** Knowledge managers, librarians, continuing professional development, digital skills

## 1. Introduction

NHS knowledge and library specialists are highly specialist health informatics staff providing services in areas such as knowledge management and mobilisation, health literacy, digital and data literacies. Their work is business critical to the NHS with a recent report estimating that NHS knowledge and library specialists provide an economic benefit of £77m per annum to the NHS in England [1].

To maximise this potential benefit, it is important that high quality continuing professional development opportunities are provided for this specialist staff group. In addition to ensuring a skilled and competent workforce, there is evidence that the availability of CPD is a factor in the retention of staff. [2]

The Topol Review [3] with its ambitions to make the NHS a world leader in using digital technology, provided additional impetus for healthcare knowledge and library specialists to enhance their skills and knowledge in the areas of data, digital and health literacy, and called for an increase in the number of knowledge specialist roles.

The Knowledge and Library Services team within Health Education England's Innovation, Digital, and Transformation Directorate, has led a number of interventions to provide high quality learning and development opportunities for the healthcare knowledge and library services workforce with a particular emphasis on digital, data, and health literacy skills.

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## 2. Methods and Results

### 2.1. Accredited learning and development through the NHS Knowledge for Healthcare Learning Academy

Health Education England has provided learning and development offers for NHS knowledge and library specialists for over ten years. The content is driven by themes and priorities from the national Knowledge for Healthcare strategy [4] and a regular biennial development needs survey which invites healthcare knowledge and library specialists serving the NHS in England to identify their learning priorities [5]. The resulting learning offers have traditionally been provided as face-to-face training, evolving during the pandemic into synchronous online learning opportunities delivered through MS Teams, Zoom and similar platforms.

In 2021 these offers were brought under the umbrella of a new NHS Knowledge for Healthcare Learning Academy bringing the following benefits:

- Enabling enhanced visibility and accessibility of the offer
- Strengthening the existing offer through robust processes
- Increased clarity over learning outcomes and course content
- Added value through accreditation by our professional body
- Increased confidence of employers and other stakeholders

#### 2.1.1    Individual Accreditation and Membership of Professional Bodies

As an Employer Partner, Health Education England is an advocate of professional registration for our knowledge and library specialists, with CILIP: the Library and Information Association. In addition to the value of networking and professional awareness there is also professional and peer recognition offered by the Certification, Chartership, and Fellowship processes, backed up with regular revalidation.

The emergence of FEDIP, as an overarching professional body for all health informatics professionals in health and care, has brought additional opportunities to network with the wider informatics community. CILIP and Health Education England are supporters of FEDIP and the opportunity it brings for a stronger united voice in the field of health informatics. As the digital and data agenda becomes ever more central to our work, FEDIP also offers the potential to support cross-over roles between elements of the profession and to better support partnership working on areas of common interest.

#### 2.1.2    CILIP Short Course Accreditation

As the recognized professional body for our workforce, it was logical that Health Education England sought short-course accreditation from CILIP for the learning and development opportunities offered through the Learning Academy [6].

One important element of the CILIP accreditation was the mapping of each learning offer to the CILIP Professional Knowledge and Skills Base (PKSB), a catalogue of skills and knowledge required across the library, information and knowledge profession. The PKSB was relaunched in 2021 [7] following a revision which incorporated a raft of new digital, data, and technology related skills highlighted as essential by CILIP's Research Report on the impact of technologies such as AI, machine learning and automation on the profession [8]. Consequently, healthcare knowledge and library specialists can be

sure that the PKSB, and the courses mapped to the framework, include the latest skills and knowledge areas identified as important to the profession.

## 2.2. Developing Digital, Data and Health Literacy Skills

Health Education England's biennial development needs survey for NHS knowledge and library staff consistently identifies technological, digital and data skills as a priority for the workforce. The results shown in Table 1 show that the top skill development requests in both 2019 and 2021 relates to this area. In 2019 this is expressed as an awareness of emerging technologies with an aspiration to develop associated skills. In 2021 there is a focus on the need for digital literacy and health literacy skills across the NHS knowledge and library workforce.

**Table 1.** Top ten development needs identified by NHS knowledge and library staff 2019 and 2021

| Ranking | 2019 | 2021 |
|---|---|---|
| 1 | Emerging Technologies | Digital Literacy |
| 2 | Literature searching | Health Literacy |
| 3 | Demonstrating value and impact | Expert Searcher Skills |
| 4 | Marketing & promoting services | Creation of knowledge assets |
| 5 | Critical appraisal | Training skills |
| 6 | Evidence Synthesis and summary | Marketing |
| 7 | Quality improvement | Information Literacy |
| 8 | Teaching and training skills | Skills for supporting researchers |
| 9 | Social media and collaborative tools | Evidence Synthesis and summary |
| 10 | Healthcare database searching | Demonstrating value and impact |

These priorities align to Health Education England's Knowledge for Healthcare Strategy which states:

"Learners and NHS colleagues trust library personnel to help them gain digital navigation skills and to integrate new technologies into their working lives in ways that are informed, safe and productive….. knowledge services teams are sharing their health literacy skills, underpinned by digital navigation skills, across sectors…..Health Education England will develop education and training to meet the needs of the current and future knowledge services workforce." [1 p.49]

Health Education England has worked with partners to ensure a range of opportunities are available to address these specific learning needs in the current workforce. Additional opportunities are under development.

### 2.2.1. Emerging Technologies Group

The Emerging Technologies Group was established in 2017 as a means to explore new and emerging technologies, familiarize healthcare knowledge and library staff with them, and encourage experimentation and trial. Over time the group expanded and provides an element of horizon scanning and communications for the wider workforce. The Emerging Technologies Group has developed into a Community of Practice for NHS knowledge and library staff to share experiences and undertake joint projects to develop skills and build confidence.

### 2.2.2. Library Carpentry

Library Carpentry is an international not-for-profit volunteer-led organisation which teaches software and data skills to knowledge and library specialists. The aim is to equip library staff with the knowledge and skills to use software and data in their everyday work and to be able to assist others to do so.

Library Carpentry hands-on workshops offer engagement with data and explore areas such as data cleansing, working with data and managing files. A key aim is to develop skills to automate repetitive, time-consuming, and error-prone data activities.

Health Education England first engaged with Library Carpentries in 2020 and since then has sent over 70 healthcare knowledge and library delegates onto the workshops with 5 delegates going on to attend Instructor Training which equips delegates with skills needed to teach on Library Carpentry courses.

The Library Carpentry training offers are usually over-subscribed and health knowledge and library specialists are keen to attend to develop their skills. Feedback has indicated that delegates enjoy the course and generally find it interesting. However, despite the willingness and enthusiasm there are few examples of colleagues being able to apply their skills practice in their day-to-day work with progress often hindered by work pressures, especially following the pandemic.

### 2.2.3. Health and Digital Literacy

NHS knowledge and library staff have assisted healthcare professionals with their digital navigation and digital literacy skills since before the widespread use of the internet in the late 1990's. NHS library spaces often incorporate IT suites and in these cases library staff become the first port of call for a range of digital queries in addition to their formal and informal training roles.

In recent years this role has extended to include health literacy with a recognition of the importance of these skills to increase equity of access to and patient involvement in treatment decisions [9]. Research in England has shown that 43% of adults aged 16-65 are unable to use words-based health information, a figure rising to 61% where numbers are included [10]. In addition to health literacy concerns this has associated impacts upon data literacy. Geodata developed by the University of Southampton and Health Education England demonstrates significant local variation in health literacy levels [11]. In response, a range of health literacy training, including an introductory session accredited by the Royal Society for Public Health, has been developed for health librarians with these skills being cascaded at local level both within healthcare and in public libraries. The suite of resources includes eLearning developed jointly by Health Education England and NHS Education for Scotland [12].

### 2.2.4. Postgraduate Certificate in Clinical Data Science

As part of Health Education England's extensive work to support the development of data, digital and technology capabilities across the entire healthcare workforce, the University of Manchester was commissioned to develop a flexible series of modules in clinical data science which can be taken together to lead to a postgraduate qualification.

The modules cover: Data Engineering [13]; Mathematics, Statistics, and Machine Learning; Data Visualisation and Communication; Human Factors and Digital Transformation.  The Health Education England national Knowledge and Library Services  team was keen to ensure these modules would be relevant and useful for

healthcare knowledge and library specialists and has sponsored a library manager to work with the team developing the modules.

A recent consultation showed substantial interest from knowledge and library specialists in undertaking the new certificate despite the limited publicity undertaken at that point. 17% expressions of interest (33 of 195) were from the knowledge and library specialist group. Health Education England's knowledge and library team has plans to offer bursaries to facilitate colleagues undertaking this certificate.

## 3. Discussion and Conclusion

Health Education England's continuing professional development offer is well received by knowledge and library specialists. Over 1,680 staff attended around 140 virtual sessions during 2020-21 and these evaluate well. The achievement of CILIP accreditation provides additional value for the offer, ensuring that participants are offered a high-quality experience.

There is a specific role for knowledge and library specialists to use their unique skill set, organising knowledge and asking the right questions, to ensure the design and evaluation of effective computable biomedical knowledge. To encourage recognition and further development in this area this specialist workforce has been encouraged to join regional Informatics Skills Development Networks (ISDN's) [14].

The range of digital, data, and health literacy skills training provided through the Learning Academy ensures that healthcare knowledge and library specialists are able to develop their skills in these priority areas. At the same time the development of new focused roles in areas such as Data Librarianship [15] make use of skills in data curation, understanding human factors and bias in data (the human bridge between data and person), and researching good practice.

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