

Supporting early clinical careers in digital health: Nurturing the next generation

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The integration and implementation of digital health strategies has the potential to transform care quality, efficiency and safety. We have learnt from previous attempts to implement digital health interventions that an informed, engaged and skilled clinical workforce is essential. There is therefore a necessity to support clinicians in gaining experience in digital health approaches, and nurture the career pathways of those who show an early interest. The increasingly multidisciplinary nature of healthcare mandates that cross-profession approaches are adopted, and that differences in existing career paths and training opportunities are recognised. Across all disciplines is the need to capture the interest of clinicians in digital health early in their chosen career paths, giving them the time and flexibility to develop professional skills and qualifications, which they can then apply as they become more specialised in their individual fields, whilst also building inter-disciplinary networks focused on effective integrated digital health interventions.

Professor Robert Wachter's report titled "Making IT work: harnessing the power of health information technology to improve care in England" and the more recent Topol Review, represent two seminal reports in preparing the United Kingdom's National Health Service for a digital future. There is a strong emphasis in on ensuring both properly trained and properly accredited clinical staff. The impacts of both reports are already being felt, with changes in the educational landscape for clinicians pursuing digital health related careers. There is now an array of high quality learning and development opportunities, including the NHS Digital Academy and Topol Fellowship Scheme. There are additional educational opportunities, such as Digital Health Summer Schools and Hack Days. Universally, however, these opportunities require delegates to have significant previous experience in digital health. Both the Digital Academy and Topol Fellowship schemes have proved to be highly competitive, with a relatively small numbers of places, whilst

even the Summer Schools require delegates to already be working in ICT-related disciplines either at a senior level, or be nominated by existing digital health network members. Undoubtedly, there is a vital need for such learning programmes, which will ensure a highly skilled professional digital workforce; however, due attention is also needed to ensure those at the start of their clinical careers can find avenues to explore the potential of digital health. Those who develop an early interest must then be able to nurture that interest into a passion and positive career choice.

There are significant challenges to exposing those at an early clinical career stage to digital health opportunities. The diverse approaches to training across different disciplines is an important example. Junior doctors spend many years in training posts, which allows relatively easy protection of time for developing digital expertise through study leave or out-of-programme initiatives. In contrast, nurses typically proceed rapidly from University into service focused "Band 5" roles, where opportunities for structured training and access to more discretionary study budgets may be limited. A universal challenge across all disciplines is the steep learning curve that early career clinicians experience on leaving full time education and entering high-pressure frontline roles in organisations that are typically managing ever increasing demands for scarce healthcare resources. Developing initiatives for early exposure to digital health therefore needs to reflect such challenges, by starting gently and promoting inter-disciplinary

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learning alongside opportunities that integrate with the real-life experiences of those starting out in their clinical careers.

The Faculty of Clinical Informatics (FCI) has been established as the multi-disciplinary professional body for all health and social care qualified individuals working as informaticians across the UK. The Faculty is developing an increasingly important role in integrated digital health education and career pathways, establishing core competency standards for clinical informaticians, alongside accreditation and revalidation processes. The Faculty's role across disciplines and career stages represents a potentially unique opportunity to promote and encourage those at an early career stage to gain digital health and health informatics exposure. The Faculty already has an Associate Member Category, which requires only that applicants demonstrate "enthusiasm and engagement in clinical informatics," which directly supports (at low cost) those at an early career stage to find a network and support organisation to help build their digital career. To further promote digital health opportunities to those at an early career stage, the FCI has recently launched an Early Careers Group (FCI ECG), which represents a Special Interest Group within the Faculty itself. The FCI ECG has been developed specifically by those at an early career stage, for those at an early career stage. The aims of the group are to engage, promote and advocate for those at an early career stage in their digital health or health informatics, with the full aims being:

1. Engage multidisciplinary healthcare professionals from an early stage in their training to support recruitment and careers in clinical informatics, highlighting the available opportunities.
2. Support the profession throughout healthcare professional training and at the crucial transition from training to substantive healthcare roles.
3. Advocate the needs of trainees within the publication of training standards, accreditation and provision of training courses and events by FCI.

The FCI ECG therefore represents the first group in the United Kingdom specifically targeted at developing digital health and health informatics exposure and experience to those at an early career stage. The individuals benefiting from such an approach will themselves go on to be the digital health leaders of the future. The group formally launched in July 2019, achieving this through a live Twitter chat. The selection of a Twitter chat medium for the launch event enabled all early career stage individuals, regardless of geographic location or study leave/budget availability, to participate and communicate their needs. Adopting

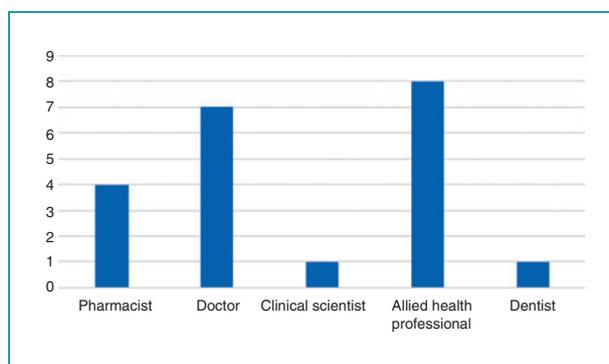


Figure 1. FCI ECG launch event - Interactions with Twitter chat.

this mechanism also allows for *post hoc* analysis of both participation and discussions in a more realistic manner than surveys distributed at face-to-face events. This evaluative method only considers those directly interacting with the Twitter chat, rather than including those simply observing or "liking" tweets posted during the chat session. The evaluation therefore is highly likely to underestimate the total number of those viewing the chat session, but highlights those participating most actively.

A total of 21 people interacted with the FCI ECG Twitter chat launch, with significant diversity across the multidisciplinary spectrum (Figure 1), this was in addition to moderation by 4 early career founding members of the FCI ECG themselves. The event was able to establish what potential members wanted from the ECG, alongside how the group can best engage with members and thus support the development of Digital Careers:

What are the top things you'd want from the group?

- Networking opportunities
- Professional competency framework
- Mapping opportunities in digital health (fellowships, courses, qualifications etc.)
- Awareness and sharing of ideas and projects
- Feedback from digital events/courses/programmes
- Mentoring programme

How can the group best engage with its members?

- Setting up/formal 'taster' opportunities
- Using multiple platforms (Twitter, email, Facebook, etc.)
- Work with partners (NHS Digital Academy, dNMAHP Network in Scotland)
- Slack, Forums, WhatsApp, Trello, Padlet

- Local multi-speciality digital transformation networks
- Digital ambassadors
- Blogs

How to support access to Digital Careers?

- Sharing of opportunities within the NHS
- Support development of core skills
- Showcasing digital careers and sharing opportunities
- Sharing of learning and experiences

Building on this feedback from the initial launch event, the FCI ECG founding committee have developed a

communication strategy, recruitment strategy, early governance arrangements and initial outline of future events targeted at engaging, promoting and advocating those at the earliest stages of their digital health careers. By nurturing such early interests, supported by the wider development of integrated training pathways and competency standards, the United Kingdom can develop a truly expert, well-led digital health workforce capable of achieving Professor Eric Topol's ambition of developing and implementing "new means of addressing the big healthcare challenges of the 21st century," in the context of the UK National Health Service "the world's largest learning organisation."