

# The NHS Digital Academy Digital Health Leadership Programme

Wendy INGLIS HUMPHREY<sup>a</sup>, Alisdair SMITHIES<sup>b</sup>, Jessica PRESTT<sup>b</sup>, Monica FLETCHER<sup>a</sup>, and Kathrin CRESSWELL<sup>a,1</sup> on behalf of the NHS Digital Academy Digital Health Leadership Programme

<sup>a</sup> *Usher Institute, The University of Edinburgh, UK*

<sup>b</sup> *Institute of Global Health Innovation, Imperial College London, UK*

**Abstract.** The Digital Health Leadership Programme is commissioned by Health Education England and part of the wider NHS Digital Academy. The Programme is a consortium of Imperial College London’s Institute of Global Health Innovation, The University of Edinburgh’s Usher Institute and Harvard Medical School. In 2021, Health Data Research UK joined Imperial and Edinburgh to deliver phase 2. The aim is to develop a new generation of digital health leaders to drive transformation of the NHS through digitisation. Participants gain the skills and knowledge to create change so that patient care and organisational operations can benefit from the many improvements and innovations modern technology has to offer.

**Keywords.** Digital; health; leadership; PGDip; workforce development

## 1. Introduction

In late 2015, the Secretary of State for Health announced that Professor Robert Wachter would lead a review on the digital future of the NHS in England. His report was published in August 2016 [1] and highlighted the need to “strengthen and grow the Chief Clinical Information Officer (CCIO) field, others trained in clinical care and informatics, and health IT professionals more generally”. In September 2016, the NHS Digital Academy initiative was announced [2] as a response to this need for improved NHS digital capability at senior leadership level. The NHS Long Term Plan in 2019 [3] further highlighted a need for the NHS to be “radically reshaped by innovation and technology”.

The Postgraduate Diploma (PgDip) in Digital Health Leadership is the flagship programme of the NHS Digital Academy. It was designed to enable those in digital leadership positions to create, implement and evaluate transformation in complex environments taking into account staff, patient and operational needs. Many training courses in digital health leadership are now emerging internationally mostly on regional levels, but the PgDip in Digital Health Leadership was the first nationally commissioned initiative aimed specifically at frontline health and care staff.

The Programme has been “consistently and significantly over-subscribed” and participants report individual benefits, benefits to their NHS organisations and (while early) anticipate benefits to the wider health system [4]. Now in its fourth year, 323 senior

---

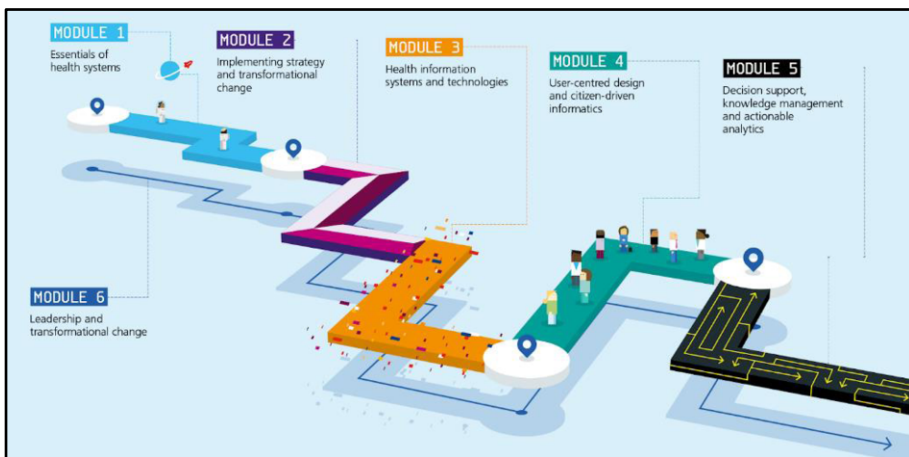
<sup>1</sup> Corresponding Author, Dr Kathrin Cresswell, Senior Lecturer, Usher Institute, Old Medical School, Teviot Place, Edinburgh, EH8 9AG, UK; E-mail: Kathrin.cresswell@ed.ac.uk.

health professionals have completed the PgDip, most while working full-time, with a further 101 due to complete in 2022 and 112 accepted on to the Programme beginning in September 2022.

## 2. Development of the Programme

The Digital Health Leadership Programme is a 12-month accredited PGDip in Digital Health Leadership. It is delivered in partnership by Imperial College London and The University of Edinburgh, and uses a blend of online and in-person learning methods. In the original delivery phase to 2021, Harvard Medical School was a further partner. Health Data Research UK (HDR UK), a new national institute for health data science with a mission to unite the UK's health and care data, joined Edinburgh and Imperial as a delivery partner in 2021 to ensure ongoing synergies between workforce education and advanced analytics.

The PGDip content combines theory and practice in a meaningful way to deliver a unique and challenging learning experience. As shown in Figure 1, six dynamic modules engage learners in key elements of the digital health journey.



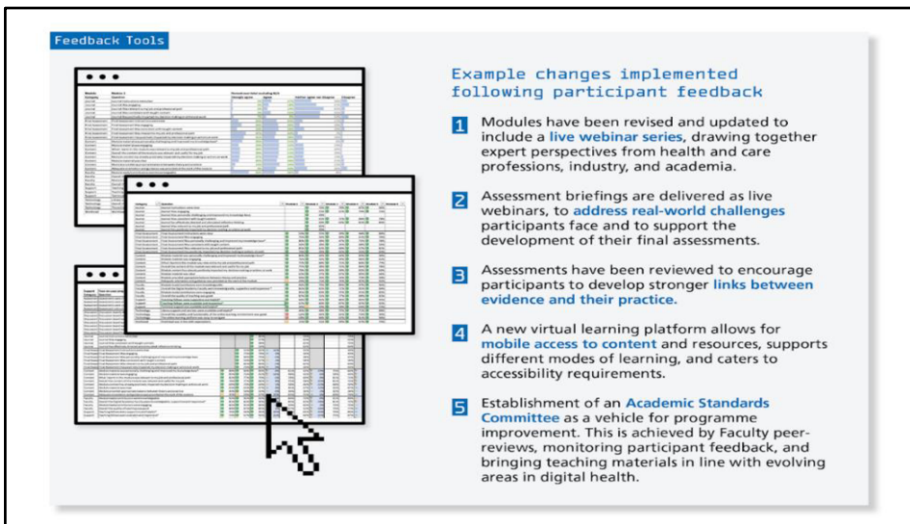
**Figure 1.** Six dynamic modules with Leadership and Transformational change as a golden thread

The Programme uses best practice in online learning design and delivery to ensure participants are fully supported through their year-long journey. National stakeholders and internationally-renowned leaders from industry, academia and clinical practice bring additional insights and encourage a focus on addressing big-picture problems. Whilst progressing through the learning content, participants join live online and experiential learning sessions with their peers. They learn about the tools and frameworks applicable to technology and change management in health and care settings. They journal experiences to capture and reflect on pertinent learning points. All participants engage with a local Board-level sponsor, to ensure that the insights acquired are applied directly to the improvement of service delivery. This combination of rigorous academic content, reflective practice and group discussion to support targeted leadership development and a sense of belonging to a growing cohort of digital transformation leaders.

### 3. Progress and evaluation

The Programme has brought together senior clinical and professional technical service participants from a range of health and care areas, including those working with Arm's-length bodies such as NHS England, NHS Digital, NHSX and NHS Education for Scotland. Places are highly sought after. The course has run at capacity with 100 places available each year in England and 5 each in Scotland, Northern Ireland and Wales. Past participants are key exponents of the Programme and encourage colleagues to attend.

The Programme was evaluated independently by the Institute for Employment Studies and NHS Leadership Academy [5]. They highlighted a strong consensus amongst participants that although the Programme was very demanding, it was also extremely positive and worthwhile. There were some teething problems with the first year of delivery, but feedback was taken on board and issues addressed quickly e.g. a “week zero” added to introduce learners to basic concepts. Where content was considered less relevant to the workplace, it has evolved to bring alignment. Participants reported that they had gained confidence, a broader perspective, an “unquantifiable value” from the community and much greater visibility outside their immediate area of work. Examples of impact have included making design of digital services more inclusive. One Executive Sponsor reported that as a direct result of attending the Programme, a member of their senior team had streamlined a data variation for their Continuing Health Care specification, making the final product far more user-focused, and therefore ultimately more useful and useable. This independent evaluation found that, overall, participants had “significant impact on their confidence and digital knowledge” [5, p.1]. One clinician explained: “[the Programme] has resulted in a huge change to what I bring to informatics meetings. My relationship with the IT Director and senior executives, as well as my influence over the direction of travel has increased dramatically” [6].



**Figure 2.** Example changes implemented following participant feedback.

As part of the Programme’s ongoing internal evaluation, Professor Robert Wachter reviewed progress. He noted that the Programme filled an important void and was impressed by the focus on policy, change management, culture and implementation, as

“too often, curricula for IT leaders focus too narrowly on the technical issues surrounding IT implementation and use”. He commented that the residential component appeared to be an integral part of peer-to-peer learning and paved the way for a community of practice. He highlighted that the Programme should evolve alongside the work of clinical IT professionals, and that participants should be involved in this process.

Participant feedback has already played a significant role in continuous development of the Programme (Figure 2), including the addition of live webinars with external experts alongside core content; live webinar assessment briefings to provide support for final assessments; development of stronger links between evidence and practice; launch of a virtual learning platform; and establishment of an Academic Standards Committee to oversee improvement with input to this group from faculty and participants.

Engagement with participants throughout each academic year has ensured that learning has continued to reflect real-world challenges. During the pandemic, many participants focused their assessments on developing strategy and digital transformation efforts that supported the COVID-19 response, with one participant from NHS England & Improvement developing the national strategy for the Test and Trace App.

Alumni evaluation across the first 3 cohorts (Figure 3) told us that by taking this course, over 90% of participants had broadened their horizons on the clinical applications of technology and more than 85% had advanced their leadership skills in the context of their sector. Almost all participants said that the Programme had been directly relevant to their day-to-day work: more than 95% said they had applied at least some of the learning to the workplace and more than 70% said that the PGDip had fully met or surpassed their expectations in terms of applying learning to their role. Finally, all participants were able to develop their network of peers and mentors, with two thirds saying that this element of the Programme had surpassed their expectations.

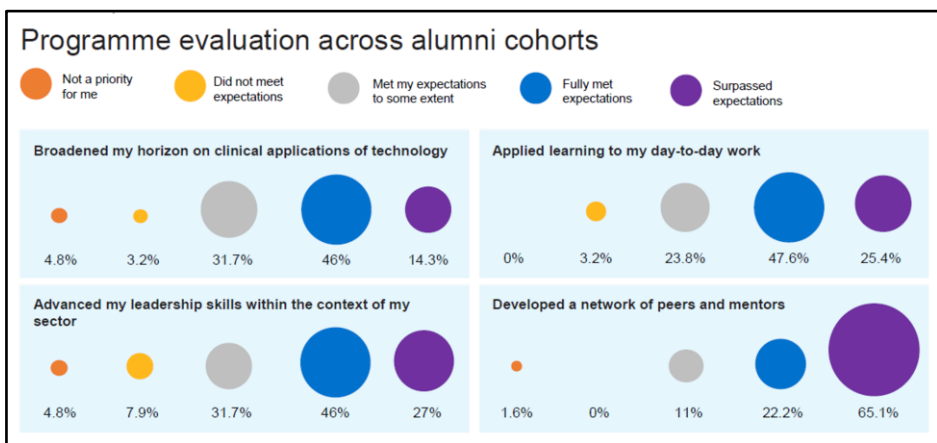


Figure 3. Summary of feedback from Cohorts 1-3 on the impact of the Programme.

An influential group of alumni maintains and develops the digital health practitioner network, using this to feed workplace experiences back into the Programme and facilitate continuous improvement of the learning experience.

#### 4. Discussion and Conclusion

The Digital Health Leadership Programme was the first Government initiative in England to address the gap in NHS digital leadership. Its success is creating a vibrant community of digital change leaders spanning clinical and informatics communities. The Programme has motivated and empowered participants to lead organisational change, foster multidisciplinary collaboration and communicate effectively across clinical and technical boundaries to manage and deliver large-scale projects.

The success of this Programme is however only the first step. Health Education England's interim report on Data Driven Healthcare in 2030 indicates that the overall requirement for digital skills in the NHS will grow by 69% between 2020 and 2030 [7]. 32,000 digitally skilled whole-time equivalents will be required for the NHS digital workforce in England. We expect that alumni from the Digital Health Leadership Programme will continue to lead the dialogue around digital transformation, but this needs to be integrated with plans for the wider digital development of the NHS workforce.

#### Acknowledgements

The Programme is co-led by Professor the Lord Ara Darzi (Imperial College London) and Professor Sir Aziz Sheikh (University of Edinburgh). We are grateful to Professors Ajay Singh (Harvard Medical School) and Andrew Morris (HDR UK), our International Advisory Board chaired by Dr Don Berwick, and all who have contributed to Programme development including Rachel Dunscombe; Gianluca Fontana; Amy Matrai; Dr Lucy McCloughan; Dr Ijeoma Azodo; Maria Georgiou; Laura Marshall; Module leads Dr Alex Carter, Professor Brendan Delaney, Lenny Naar, Dr Claudia Pagliari, Alison Singleton, Dr Thanasis Tsanas and Professor Robin Williams; and Teaching Fellows Louie Alvarado, Ruth Claire Black, Jay Evans, Lydia Jidkov, Yara Malek, Meric Öztap, Carol Read, Lily Roberts, Sarah Spence and Abigail Vacheron.

#### References

- [1] Wachter RM. Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England; [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/550866/Wachter\\_Review\\_Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550866/Wachter_Review_Accessible.pdf)
- [2] New Plans to expand the use of digital technology across the NHS; 2016; <https://www.gov.uk/government/news/new-plans-to-expand-the-use-of-digital-technology-across-the-nhs>
- [3] The NHS Long Term Plan; Jan 2019; [www.longtermplan.nhs.uk](http://www.longtermplan.nhs.uk)
- [4] David Farrell, Harpreet Sood. (2020) The NHS Digital Academy – learning from the past to look ahead. *Future Healthcare Journal* Oct 2020, 7 (3) 185-188; DOI: 10.7861/fhj.2020-0166
- [5] Price-Dowd C, et al. NHS Digital Academy – Evaluation scoping report. Institute for Employment Studies and NHS Leadership Academy Report; Sep 2019; <https://www.hee.nhs.uk/sites/default/files/documents/Evaluation%20of%20the%20Digital%20Academy%20-%20Scoping%20Report%20-%20Nov%202019.pdf>
- [6] Blog post Dr Rupert Page, Chief Clinical Information Officer, Dec 2018: <http://web.archive.org/web/20190612200823/https://digital.nhs.uk/blog/transformation-blog/2018/how-apps-and-wearables-can-support-patients-with-epilepsy>
- [7] Data Driven Healthcare in 2030: Transformation Requirements of the NHS Digital Technology and Health Informatics Workforce; Mar 2021; <https://www.hee.nhs.uk/our-work/building-our-future-digital-workforce/data-driven-healthcare-2030>