



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Accelerating health information technology capabilities across England's National Health Service

Citation for published version:

Cresswell, K, Sheikh, A & Williams, R 2021, 'Accelerating health information technology capabilities across England's National Health Service', *The Lancet Digital Health*. [https://doi.org/10.1016/S2589-7500\(21\)00145-X](https://doi.org/10.1016/S2589-7500(21)00145-X)

Digital Object Identifier (DOI):

[10.1016/S2589-7500\(21\)00145-X](https://doi.org/10.1016/S2589-7500(21)00145-X)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

The Lancet Digital Health

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Accelerating health information technology capabilities across England's National Health Service



The National Health Service (NHS) England Global Digital Exemplar (GDE) Programme has, by contrast to earlier failed programmes such as the National Programme for IT, made considerable progress in developing digital transformation capability in select hospitals. These GDE provider organisations are now among the most digitally advanced sites worldwide and have successfully exploited these capabilities during the COVID-19 pandemic.¹ Digital transformation, such as implementing and optimising electronic health records and electronic prescribing, has been achieved through organisation-wide engagement and alignment of efforts around a future-oriented vision, while still allowing space for more organic development supported by nationally orchestrated knowledge sharing initiatives. However, there is a paucity of clarity about how these success factors (those associated with successful digitally enabled transformation in the GDE programme) are incorporated into the national digitisation strategy going forward.

The £9.8 billion National Programme for IT was launched in 2002 and attempted to digitise the NHS, but was dismantled in 2011 as the centrally procured frontline systems had not delivered the hoped-for patient, system, or efficiency gains.^{2,3} In the aftermath of the National Programme for IT, hospitals were left to their own devices to procure and implement systems, with little central guidance or funding.⁴

In 2016, a Government review⁵ of NHS England's health information technology strategy led by Professor Robert Wachter sought to learn lessons from the disappointing outcomes of the National Programme for IT and the US\$38 billion Health Information Technology for Economic and Clinical Health Act programme in the USA.⁶ Given that the investment required to digitally transform all NHS hospitals greatly exceeded available resources, the Wachter review proposed a phased approach, starting with the most digitally advanced hospitals, coupled with a national programme to build digitisation leadership.⁵ The GDE Programme was accordingly designed to create a select cohort of digitally advanced GDE hospitals that would pass on their learnings to a second cohort of less digitally mature, so-called Fast Follower hospitals and

catalyse large-scale digitally enabled transformation of the wider English NHS.

The GDE Programme has successfully advanced digitally enabled service transformation in a select 51 (18%) of 287 provider organisations by coupling modest financial support (up to £10 million per organisation) with governance structures to deliver leadership and clinical engagement geared towards transformation outcomes linked to international benchmarks.¹ The GDE Programme also put into place mechanisms for sharing learning (including GDE-Fast Follower partnerships and the circulation of Blueprints [formal documents designed to capture implementation experience]) that have fostered the informal networking needed to create the foundations for a dynamic learning ecosystem.⁷

The success of the GDE Programme comes after a period in which many heavily funded national technology procurement programmes, such as the National Programme for IT and the Health Information Technology for Economic and Clinical Health Act programme, failed to deliver digital transformation.^{8,9} As the GDE Programme ends, there is now a need to build on the momentum created and carry forward key lessons to promote digital transformation more broadly across the NHS. However, strategy will need to be carefully considered. The transformational impetus resulting from the synergy of three key drivers—dedicated funding, a degree of local control over implementation pathways, and reputational benefits—might be weakened as the focus shifts towards promoting digital transformation in less digitally mature organisations. This consideration is especially relevant if available resources are spread thinly across organisations that might require higher levels of support.

This has two main implications. First, there is a need to realise that digital transformation is a marathon, not a sprint, and, indeed, a journey with no endpoint.¹⁰ Second, it is not necessary or desirable for followers to replicate the journey, involving many false turns, made by current leaders. Levelling-up strategy needs to now focus on creating opportunities for leapfrogging through local partnerships, sharing learning and capabilities. Although successfully promoting digital

Lancet Digit Health 2021

Published Online
September 28, 2021
[https://doi.org/10.1016/S2589-7500\(21\)00145-X](https://doi.org/10.1016/S2589-7500(21)00145-X)

transformation in digitally advanced sites, the short timeframe of the GDE Programme encouraged tried and tested solutions. Longer term interventions are required to promote innovation, including organisational, service, social, and product innovation. Otherwise, there is a risk that the growing digital maturity divide between organisations will inhibit both the delivery of integrated digital environments for care pathways and also the establishment of a dynamic learning ecosystem with innovation at its core.

The authors received funding from NHS England for the independent evaluation that this Comment is based on. The views expressed in this Comment are those of the authors and not necessarily those of the NHS, NHSX, NHS England, or NHS Digital. An independent academic advisory group provided clear and supportive guidance during the entire duration of the GDE Programme. The academic advisory group included Anthony Avery (the chair), Gordon Schiff, and Philip Scott. We thank the individuals and provider organisations who took part in this research.

Copyright © 2021 The Author(s). Published by Elsevier Ltd. This is an Open Access article published under the CC BY-NC-ND 4.0 license.

**Kathrin Cresswell, Aziz Sheikh, Robin Williams*
kathrin.cresswell@ed.ac.uk

Usher Institute (KC, AS) and Institute for the Study of Science, Technology and Innovation (RW), University of Edinburgh, Edinburgh EH8 9DX, UK

- 1 Williams R, Cresswell K. Beginning a joint digitally enabled transformation and learning journey in the English National Health Service. Full report of the Independent Evaluation of the Global Digital Exemplar (GDE) Programme. 2021. <https://www.ed.ac.uk/usher/digital-exemplars/final-report> (accessed Sept 27, 2021).

- 2 Sheikh A, Cornford T, Barber N, et al. Implementation and adoption of nationwide electronic health records in secondary care in England: final qualitative results from prospective national evaluation in “early adopter” hospitals. *BMJ* 2011; **343**: d6054.
- 3 National Audit Office. Review of the final benefits statement for programmes previously managed under the National Programme for IT in the NHS. June, 2013. https://www.nao.org.uk/wp-content/uploads/2013/06/10171-001_NPFIT_Review.pdf (accessed June 6, 2021).
- 4 Takian A, Cornford T. NHS information: revolution or evolution? *Health Policy Technol* 2012; **1**: 193–98.
- 5 National Advisory Group on Health Information Technology in England. Making IT work: harnessing the power of health information technology to improve care in England. Report of the National Advisory Group on Health Information Technology in England. 2016. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550866/Wachter_Review_Accessible.pdf (accessed May 17, 2021).
- 6 Sheikh A, Jha A, Cresswell K, Greaves F, Bates DW. Adoption of electronic health records in UK hospitals: lessons from the USA. *Lancet* 2014; **384**: 8–9.
- 7 Williams R, Sheikh A, Franklin BD, et al. Using Blueprints to promote interorganizational knowledge transfer in digital health initiatives—a qualitative exploration of a national change program in English hospitals. *J Am Med Inform Assoc* 2021; published online March 11. <https://doi.org/10.1093/jamia/ocab020>.
- 8 House of Commons Public Accounts Committee. Digital transformation in the NHS. Twenty-second report of session 2019–20. Nov 6, 2020. <https://committees.parliament.uk/publications/3315/documents/31262/default/> (accessed May 17, 2021).
- 9 Apathy NC, Holmgren AJ, Adler-Milstein J. A decade post-HITECH: critical access hospitals have electronic health records but struggle to keep up with other advanced functions. *J Am Med Inform Assoc* 2021; published online July 1. <https://doi.org/10.1093/jamia/ocab102>.
- 10 Krasuska M, Williams R, Sheikh A, et al. Technological capabilities to assess digital excellence in hospitals in high performing health care systems: international eDelphi exercise. *J Med Internet Res* 2020; **22**: e17022.