

# 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

## Executive Summary



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# Executive Summary

In order for the National Health Service (NHS) to continue to provide a high level of healthcare at an affordable cost, it simply must modernise and transform. This transformation will involve enormous changes in culture, structure, governance, workforce, and training.

But none of the changes are likely to be as sweeping, as important, or as challenging as creating a fully digitised NHS.

Impressively, the English GP sector began digitising in the 1980s, and by the mid-2000's was nearly 100% digital. By contrast, an ambitious programme to digitise secondary care – the National Programme for Information Technology (NPfIT), launched in 2002 – was shut down in 2011 after having mostly failed to achieve its goals. Analyses of NPfIT criticised the programme for being too centralised, for not engaging with trusts and their healthcare professionals, and for trying to accomplish too much too quickly. A consensus has since emerged that the time has come to move forward, and, in 2016, the Treasury allocated £4.2 billion to support the digitisation of the NHS.

In late 2015, the National Advisory Group on Health Information Technology in England was formed to advise the Department of Health and NHS England on its efforts to digitise the secondary care system. Our recommendations fall into two broad categories: ten overall findings and principles, followed by ten implementation recommendations.

## Overall findings and principles

### 1. Digitise for the Correct Reasons

The goal of digitisation of health systems is to promote what has become widely known as healthcare's Triple Aim: better health, better healthcare, and lower cost.

These aims are consistent with those of the NHS's 2014 Five Year Forward View, which called for improvements in quality and service, as well as £22 billion in efficiencies. The Advisory Group believes that trying to achieve the aims of the Five Year Forward View without giving highest priority to digitisation would be a costly and painful mistake.

### 2. It is Better to Get Digitisation Right Than to Do it Quickly

While there is urgency to digitise the NHS, there is also risk in going too quickly. The Advisory Group urges the NHS to digitise the secondary care sector in a staged fashion, in which trusts that are ready to digitise are prompted to do so, while those that are not ready should be encouraged and supported to build capacity, a process that will take several years.

### 3. 'Return on Investment' from Digitisation Is Not Just Financial

While it is natural to seek a short-term financial return on investment from health IT, experience has shown that the short-term ROI is more likely to come in the form of improvements in safety and quality than in raw financial terms. In fact, cost savings may take 10 years or more to emerge (the so-called 'productivity paradox' of IT), since the keys to these gains are improvements in the technology, reconfiguration of the workforce, local adaptation to digital technologies, and a reimagining of the work.

### 4. When it Comes to Centralisation, the NHS Should Learn, but not Over-Learn, the Lessons of NPfIT

While it is true that NPfIT erred partly through overcentralisation, it is also important to note that centralisation sometimes makes sense, particularly in the context of a national health system. A new digital strategy should seek an appropriate balance between local/regional control and engagement versus centralisation.

## **5. Interoperability Should be Built in from the Start**

Local and regional efforts to promote interoperability and data sharing, which are beginning to bear fruit, should be built upon. National standards for interoperability should be developed and enforced, with an expectation of widespread interoperability of core data elements by 2020. In addition, the Advisory Group endorses giving patients full access to their electronic data, including clinician notes.

## **6. While Privacy is Very Important, So Too is Data Sharing**

Privacy is very important, but it is easy for privacy and confidentiality concerns to hinder data sharing that is desirable for patient care and research. It would be a mistake to lock down everyone's healthcare data in the name of privacy. We endorse the recommendations of the National Data Guardian's Review of Data Security, Consent, and Opt-Outs, which was commissioned to achieve this balance.

## **7. Health IT Systems Must Embrace User-Centered Design**

IT systems must be designed with the input of end-users, employing basic principles of user-centered design. Poorly designed and implemented systems can create opportunities for errors, and can result in frustrated healthcare professionals and patients.

## **8. Going Live With a Health IT System is the Beginning, Not the End**

The 'Go Live' period in a large hospital or trust is always difficult, but is nonetheless just the start. Health IT systems need to evolve and mature, and the workforce and leadership must be appropriate for this task. While patient safety is non-negotiable, regulators and commissioners need to have a degree of tolerance for short-term slow downs and unanticipated consequences in the period following EHR implementation.

## **9. A Successful Digital Strategy Must be Multifaceted, and Requires Workforce Development**

The NHS's digital strategy should involve a thoughtful blend of funding and resources to help defray the costs of IT purchases and implementation, resources for infrastructure, support for leadership and informatics training, as well as support for education of leaders, front-line providers, trainees and clinician- and non-clinician informaticians. The Advisory Group was struck by the small number of leaders at most trusts who are trained in both clinical care and informatics, and their limited budgetary authority and organisational clout. This deficit, along with a general lack of workforce capacity amongst both clinician and non-clinician informatics professionals, needs to be remedied.

## **10. Health IT Entails Both Technical and Adaptive Change**

Many observers and stakeholders mistakenly believed that implementing health IT would be a simple matter of technical change – a straightforward process of following a recipe or a checklist. In fact, implementing health IT is one of the most complex adaptive changes in the history of healthcare, and perhaps of any industry. Adaptive change involves substantial and long-lasting engagement between the leaders implementing the changes and the individuals on the front lines who are tasked with making them work. Successful implementation of health IT across the NHS will require the sustained engagement of front-line users of the technology.

# Recommendations

## **1. Carry Out a Thoughtful Long-Term National Engagement Strategy**

The Advisory Group believes that a long-term engagement strategy is needed to promote the case for healthcare IT, identify the likely challenges during implementation, educate stakeholders about the opportunities afforded by a digital NHS, and set the stage for long-term engagement of end users and co-creation of systems and strategies. The campaign

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needs to emphasise that the goal is not digitisation for digitisation's sake, but rather to improve the way care is delivered in the NHS, in part by using digital tools.

## **2. Appoint and Give Appropriate Authority to a National CCIO**

A national chief clinical information officer (CCIO), with a background in clinical care, informatics, and leadership, should be appointed to oversee and coordinate NHS clinical digitisation efforts. This individual and his or her team must be given appropriate organisational and budgetary authority. Because health IT crosses the domains and budgets of so many NHS organisations, this individual and team will assume a crucial coordinating function.

## **3. Develop a Workforce of Trained Clinician-Informaticists at the Trusts, and Give Them Appropriate Resources and Authority**

There must be a major effort to place well-qualified clinicians with advanced informatics training in every trust. The Advisory Group estimates that an average-sized trust needs at least five such individuals on staff. Their leader, the CCIO, should be a well trained and credentialed clinician-informatician, and should report directly to the board or CEO. In considering whether to offer government money to subsidise digital implementation in a trust, close attention should be paid to the adequacy of the trust's plan to hire and support this clinical-IT workforce.

## **4. Strengthen and Grow the CCIO Field, Others Trained in Clinical Care and Informatics, and Health IT Professionals More Generally**

The dearth of professional, well-supported CCIOs with appropriate authority and resources is an enormous obstacle to successful deployment and benefits realisation of health IT at the trust level. To rectify this gap, not only will there need to be satisfying, sustainable positions available to CCIOs in trusts, but the CCIO field itself must also be strengthened and grown. This will involve a major effort by existing professional bodies to create and certify training programmes for clinician-informaticians. It will also

require support for the development of vibrant professional societies. Moreover, the workforce of clinician and non-clinician informaticians, informatics researchers, programme evaluators, and system optimisers needs to be increased and nurtured. We favour a significant allocation of central resources – £42 million, or one percent of the £4.2 billion allocated for digitisation – to support this crucial workforce development.

## **5. Allocate the New National Funding to Help Trusts Go Digital and Achieve Maximum Benefit from Digitisation**

The £4.2 billion the Treasury made available in 2016 to promote digitisation, while welcome, is not enough to enable digital implementation and optimisation at all NHS trusts. Therefore, we suggest a phased approach. During Phase 1 (2016-2019), national funding should be combined with local resources to support implementation in trusts that are prepared to digitise, and to support those that are already digitised and ready to reach even higher levels of digital maturity. Another tranche of government funding (not yet allocated) will likely be needed to support a second stage (Phase 2, 2020-2023) of the strategy, as described under Recommendation 6.

## **6. While Some Trusts May Need Time to Prepare to Go Digital, All Trusts Should be Largely Digitised by 2023**

It would be reasonable to expect all trusts to have achieved a high degree of digital maturity by 2023. After that year, we recommend that no more government subsidies be made available, and that regulators should begin to deem trusts that have not reached a high level of digital maturity to be out of compliance on quality and safety grounds.

## **7. Link National Funding to a Viable Local Implementation/Improvement Plan**

The availability of central money to support digitisation should be linked to a parallel investment from each trust (based in part on ability to pay), NHS approval of a plan that demonstrates that the trust is adequately

prepared to succeed in both digitisation and in promoting regional interoperability, evaluation of progress, and ongoing accountability that the money was well spent.

## **8. Organise Local/Regional Learning Networks to Support Implementation and Improvement**

To support purchasing, implementation, and ongoing improvements by trusts, digital learning networks should be created or supported. Such networks may vary, with some helping in the early stages (choice of EHR system, contracting, implementation) and others at later stages (optimisation, decision support, analytics). The latter category may include IT supplier-specific networks.

## **9. Ensure Interoperability as a Core Characteristic of the NHS Digital Ecosystem – to Promote Clinical Care, Innovation, and Research**

The new effort to digitise the NHS should guarantee widespread interoperability. The goals of interoperability are to enable seamless care delivery across traditional organisational boundaries, and to ensure that patients can access all parts of their clinical record and, over time, import information into it. Widespread interoperability will require the development and enforcement of standards, along with penalties for suppliers, trusts, GPs, and others who stand in the way of appropriate data sharing. The system, standards, and interfaces should enable a mixed ecosystem of IT system providers to flourish, with the goal of promoting innovation and avoiding having any one vendor dominate the market. Plans for interoperability should be harmonised with other ongoing efforts to join up elements of the health and social care systems, such as those represented by the Sustainability and Transformation Plans (STPs).

## **10. A Robust Independent Evaluation of the Programme Should be Supported and Acted Upon**

In light of the likelihood of unanticipated consequences, the high cost of digitisation, and the chequered history of past efforts to digitise the secondary care sector, the NHS should commission and help fund independent evaluations of the new IT

strategy. Such evaluations should be formative (conducted and reported as the strategy is progressing) and summative (reporting at the end of each of the two phases of deployment). In assessing the benefits and costs of health IT, evaluations should consider the impact of digitisation on the satisfaction of healthcare professionals.

## **Conclusion**

We believe that the NHS is poised to launch a successful national strategy to digitise the secondary care sector, and to create a digital and interoperable healthcare system. By using national incentives strategically, balancing limited centralisation with an emphasis on local and regional control, building and empowering the appropriate workforce, creating a timeline that stages implementation based on organisational readiness, and learning from past successes and failures as well as from real-time experience, this effort will create the infrastructure and culture to allow the NHS to provide high quality, safe, satisfying, accessible, and affordable healthcare.

The experience of industry after industry has demonstrated that just installing computers without altering the work and workforce does not allow the system and its people to reach this potential; in fact, technology can sometimes get in the way. Getting it right requires a new approach, one that may appear paradoxical yet is ultimately obvious: digitising effectively is not simply about the technology, it is mostly about the people.

To those who wonder whether the NHS can afford an ambitious effort to digitise in today's environment of austerity and a myriad of ongoing challenges, we believe the answer is clear: the one thing that NHS *cannot* afford to do is to remain a largely non-digital system. It is time to get on with IT.

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