Enabling success for health and care systems through technology
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Introduction
We know that the NHS faces a range of interconnected challenges: an ageing population and the increasing burden of chronic diseases are creating ever-growing demand on a system already under pressure. Funding is not increasing to match demand, with the expected funding gap set to increase further by 2020/21. Balancing this seemingly impossible equation is a challenge all NHS organisations face. The deployment and use of technology has a role to play in rising to this challenge.

Published in March 2017, the Next Steps on the NHS Five Year Forward View emphasises the need to move to new Models of Care to deliver better, more joined-up services. Integrated clinical information systems and associated technologies are key enablers to achieving the vision of the Five Year Forward View and driving quality and efficiency improvements to sustain the NHS.

Healthcare digitisation
Towards digital integration
The technology to support much of healthcare in the UK is partly digitised, partly integrated and reflects many legacy systems still in use. Whilst there is positive progress on the use of digital apps for specific purposes by leading NHS trusts and NHS strategic bodies, the foundational ‘systems of record’ are yet to be fully implemented. There is more to do to provide the integrated platform from which digitised services can be developed and to implement an ecosystem of many apps and digital capabilities that are trusted and integrated.

Supporting your ‘Digital Journey’
Organisations and health systems are on a journey towards digitising care. Achieving one change, be it the introduction of a booking app, or new clinical information system, is only the first of many changes that are required to advance and mature the wider digital vision for a health system. Delivering digital healthcare over time requires a shift in focus to analytics and population health management, integrated care records, flexible communications and mobile digital health infrastructure, which will fundamentally change the way in which healthcare is delivered.

Deloitte’s services focus both on the implementation and integration of digital solutions and the associated transformation of service delivery and supporting processes. This document sets out the services we can provide to help you progress your digital journey.

Achieving Technology-Enabled Transformation
We recognise that digitising healthcare is more difficult than other public services due to the scale of transformation required to achieve people and process changes. The deployment of technology to enable enhanced and efficient care delivery is critically dependent upon its integration into clinical processes and pathways, as well as consistent use by clinicians and care staff. Digitising healthcare requires significant focus and investment in strategic planning and alignment, change management, governance and training.
Our services

How technology can support your care ecosystem
At Deloitte, we help our clients manage today’s challenges and create a sustainable future. We support the journey to develop digital capability, from the initial vision, planning and implementation through to optimisation. Our goal is to enable this journey, providing expertise, insight and assurance, as well as practical hands-on help.

We have **10 connected service areas of expertise, designed to provide targeted support and insights**, which allow health and social care systems and healthcare organisations to deliver better-value care for their populations through the implementation of technology-enabled change.
Enabling success for health and care systems through technology

Technology-enabled Healthcare Lifecycle

Clinical Transformation Journey
The ability to demonstrate understanding, monitoring and management of risks associated with existing technologies is a fundamental component of enabling effective technological and organisational transformation.

Covering the health and social needs of a place-based population requires a longitudinal care record, using effective aggregation of multiple data points to support patients and caregivers to make better decisions. Improving their ability see the entire patient journey, will avoid complications, improve administration, optimise functional status, enhance self-care and promote prevention and wellness.

Health and social care organisations increasingly recognise the need for the development of system-wide technology strategies. But some see the cost of the digital 'reset' to reverse years of under investment as a significant challenge in the context of financial austerity. We see integrated technology solutions as enabling financial recovery and improved system efficiency – developing affordable digital roads that deliver real and sustainable benefits.

How we can help:
- **High-level assessments** to understand and diagnose technology ‘pain points’ impacting organisations, identifying risk-focussed actions.
- **Providing assurance to internal and external stakeholders** at board and executive level, and external partners such as local authorities, regulators and patients.
- **Aligning findings with the organisation’s key strategic considerations** and recommending relevant actions.

How we can help:
- Deloitte has deep experience in:
  - **Integrated population health management strategy** and operations.
  - **Well-developed and tested models of integrated data management** for population health.
  - **World-class healthcare analytics methods and tools**, including leading economic and actuarial capabilities.
  - **Deep understanding of the unique care management requirements** for populations.
  - **Experienced doctors, nurses, social care professionals, analysts and health technology professionals** with population health skills.

These characteristics result in focussed on clear outcomes that identify and document key clinical, social and financial values for the health and social care system, patients and families.

How we can help:
- **Baselining of current IT estates**.
- **Assessment of the benefit-generative potential** of current investments.
- **Assessment of current and strategic gaps** in provision.
- **Development of integrated future state models** and option appraisals, including benefits and affordability modelling.
- **‘Honest broker’ role**, supporting engagement between stakeholders and across health systems.
- **Collation of roadmaps** to move from current state to optimum future state.
Planning and business case development

**The case for change: Business case development**

Boards, senior management teams and programme teams require targeted support at key points in the technology business case development and approval process, including strategic alignment, confirmation of cost estimates, demonstration of affordability, benefits estimation and planning, and preparation for scrutiny from regulators and funding partners. Whatever the business case need, for infrastructure, applications, system integration, change or value realisation, we can develop a compelling case for change.

**Procurement: Selecting the right system**

Investing in new technology systems offers an opportunity to benefit from supplier competition to secure cost-effective, long-term maintenance and support contracts. Having the appetite to challenge suppliers and differentiate a healthcare provider’s needs rather than wants supports a cost-conscious culture and bespoke package of functionality.

**How we can help:**

- Assessing the **current state of clinical technology maturity** at your organisation to identify opportunities and help prioritise focus areas of transformation for the technology implementation

- **Quantifying** the financial, clinical quality and operational efficiency **benefits** and developing a benefits realisation approach

- Supporting in the **development of the financial model** included in the business case using our knowledge of the Total Cost of Ownership of the proposal and impact on the organisation’s underlying financial model.

- Drawing upon our vast experience of successfully implementing technology-enabled change in North America we can provide the resources required to achieve the benefit opportunities, including process, people/job role, cultural, or structural change.

**How we can help:**

- **Developing the lotting strategy** for each element of software, hardware, support, hosting and integration, to optimise bidder responses and value for money.

- **Assessing scope to leverage existing national frameworks** to reduce cost and delays and optimise supplier appetite.

- **Leading the procurement process** to accelerate implementation and benefits realisation.

- **Developing evaluation criteria** which reflect Trust-specific objectives.

- **Leading financial and operational modelling** to support business planning, bidder evaluation and approvals.

- **Designing and negotiating contract terms** which optimise supplier behaviours and anticipate implementation risks.
Implementing the ‘system of record’ is challenging in any healthcare organisation. Technology-enabled change programmes aim to provide integrated technology supporting improved patient pathways. Changing clinical, administrative and human practices of interaction are fundamental to this process, requiring programmes that focus on the management of change throughout an organisation.

How we can help:
- **Programme design**, through the lifecycle of the programme.
- **Change management approaches** integrated across the whole programme period.
- **Programme governance**, resourcing and planning, that takes into account the broader organisational requirements of workforce, activity and income planning.
- **Delivery of the implementation plan**, including design, build, testing, and training.
- **Organisational and technology readiness** to proceed to go-live with the EPR application.
- **Post-implementation stabilisation**, maintenance and benefits realisation.
- **Optimisation programmes**, focus on the development of sustainable methods to manage, improve and update your digital systems to encourage continued use and release benefit.

The accelerating pace of technological change is placing increasing pressure on organisations. In order to keep up and remain competitive, it is crucial that NHS Trusts and organisations transform their technology platforms, and meet demands to scale, adapt and deliver flexible IT services.

How we can help:
- Deloitte has developed a Centre of Excellence for Infrastructure Transformation Services and is the leading practice globally on advising clients for cloud services adoption, implementation and strategy.
- We can help you with key application implementations such as EPRs and can support you with our Application Managed Service. We also have a world-class Mainframe application migration service capability.
- **Conduct rapid assessments of your IT capability**, with recommendations to increase your maturity and capability, and augment your strategy.
- **Develop and deliver technology strategies**, architecture design and support, testing services, and operating model design.
Technology implementation presents both opportunities and risks. Digitising complex healthcare processes, where safe delivery of care is paramount, requires careful planning and expertise. Effective programme planning, resourcing, clinical and public engagement, systems integration management, configuration, testing, training, and the ability to achieve a smooth transition to the effective functioning of your digital processes are all built on capable and experienced teams working to achieve a clear digital vision.

Increased reliance on systems to enable key clinical processes such as prescribing, blood administration, results reporting and billing creates both benefits and vulnerability for digital organisations.

How we can help:
Deloitte has an experienced team of clinicians, technologists and programme managers to provide support as you implement your digital vision. Working alongside your team, we can assist with:

- **Driving successful programme implementation** and mitigating risk by leveraging our tried and tested implementation methodologies; and
- **Augmenting your team** with individuals experienced in large and complex programmes and a knowledge of wide range of application and infrastructure vendors.

How we can help:

- **Assessment of cyber security vulnerability**, addressing both technical and cultural risks, and recommending practical mitigations.
- **Recommendations to secure the confidentiality and integrity of networked resources**, such as integrated devices, diagnostic modalities like MRI machines, and critical business systems.
- **Providing inventory and management tools** to understand key information assets and manage associated risk.
Optimisation: Transforming with Apps and AI

Adjusting to digital care delivery can be challenging and disruptive. As systems are rolled out, clinical teams identify areas for improvement and development in their workflows and supporting systems, creating the need for continuous investment and improvement. Realising the benefits of digital systems also requires a continuous effort to standardise processes and make care delivery easier. Functionality, hardware and clinical systems must align to reduce variability and simplify processes.

How we can help:
Deloitte has worked with hundreds of organisations making the transition from digital implementation to optimisation. Planning ahead is crucial. We can assist with:

- Developing a clear and organised approach to prioritising and enacting optimisation opportunities by identifying clinical leaders, programme structures, and technical and clinical expertise; and
- Providing expertise in clinical process redesign and application configuration to support in realising benefits on a small scale, or across a whole organisation.

How we can help:
We are always on the lookout for innovative digital apps that have the potential to be game-changing. One such is TELER Online, developed by SME Longhand Data, building on over two decades of prior academic research. TELER Online provides a library of indicator scales that turn subjective, unmeasurable quantities like pain into measurable indicators of therapeutic gain as patients either recover or learn to manage their long term conditions. We are also undertaking a series of pioneering AI Proofs of Concept with NHS Trusts, mining the data held in medical records to allow for more efficient processing, intelligent analysis and improved decision making, ultimately aimed at overcoming common financial, operational and clinical challenges.

How we can help:
We can support you in your automation journey. Deloitte is providing:

- “Hearts and Minds” business change services to help client teams adopt TELER Online successfully, and to track benefits realisation; “Ways of Working” redesign; cost and benefits modelling to understand the mechanisms in specific settings by which TELER Online avoids cost, frees up capacity and/or improves patient outcomes.
- Our AI capabilities include: using the latest in AI and robotics to automatically triage incoming patient referrals and assign patients to appropriate pathways; using a combination of robotic process automation and a cognitive model to automate the existing manual process of assigning diagnosis and procedure codes to hospital activity; using the latest in AI and robotics to automatically determine a patient’s RTT status along the treatment pathway.
About Deloitte

Our team
In the UK, we served over 200 clients in FY 2017. Each year we have between 400 and 700 engagements ongoing at any point in time. We are a trusted assurance partner, as an external and internal auditor to Trusts and national bodies. In the US, we have supported 50 organisations on their digital journey to becoming HIMSS Level 7 organisations.

Our people make the difference. Our multi-disciplinary health technology team includes experienced practitioners, technologists and clinicians, all of whom have experience working with healthcare organisations to design and deliver their digital strategies.

Our team has extensive NHS technology and business experience, including senior leadership experience working within Trusts across the UK. We have worked with national bodies, including NHS England, NHS Improvement, NHS Digital and the Department of Health to gain insight into the future development and delivery of technology-enabled health care delivery.

Insights, impact & investment in leaders
Deloitte is unique in the resources it brings to support global and local needs in the life sciences and healthcare industry.

We are committed to developing industry research and building alliances with leading industry organisations to address challenges in the healthcare sector.

Our thought leadership includes the Deloitte Centre for Health Solutions, our policy analysis and health services research unit. The centre’s goal is to inform stakeholders in the healthcare system about emerging trends, challenges and opportunities using rigorous primary research and systematic review of previously published studies. Through research, roundtables and other forms of engagement, the centre seeks to be a trusted source for relevant, timely and reliable insights.

To learn more, please visit: www.deloitte.co.uk/centreforhealthsolutions
We focus on investment in our sector by developing and supporting leaders through initiatives such as our:

- NHS Finance Future Leaders programme
- Women in Health dinners
- CCIO and CIO dinners
- Foundation Trust Healthcare dinner series
- Clinical Leadership secondments
- Clinical Fellow programme
- Next Generation Digital Leaders programme
- Next Generation CFO programme
- Next Generation CIO programme
- Health Roundtables (technology, commissioning, analytics, population health)
- NHS Briefings
- NHS Graduate Training Scheme Flexi Placement
- Cyber “Capture the Flag!” events

We are committed to support NHS organisations in their journey to sustainable technology-enabled healthcare.
### Why Deloitte?

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<th>Thought leadership in healthcare technology</th>
<th>Deloitte has a well-developed knowledge base and compendium of tools to accelerate technology implementation and optimisation.</th>
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| Real-life experience of successful technology-enabled hospital transformation | Our team delivers and advises on complex technology implementations. We advise clients at various points in their implementation lifecycles, from strategy formulation to pre-go-live assurance.  
Our UK teams are supplemented by our North American team, which is market-leading in supporting major hospitals in the implementation of EPR solutions. That team has practical, hands-on implementation experience of installing and supporting clinical applications, to drive transformation. Furthermore, as part of Deloitte Northwest Europe, our collective team has experience in the Nordic countries and the Netherlands on digital health programmes. |
| Vendor independence | Deloitte is recognised for the quality, integrity and independence of its professional advice. We are technology-agonistic, recognising that its benefits are dependent on the ability of clinicians and operational users to adapt to and utilise it effectively.  
Our deep knowledge of the capabilities of the products and services on the market bring our real world experience and expert insight to help you make the difficult choices that are part of your digital journey. |
| Brand credibility | In healthcare technology we are a recognised market-leader, supporting healthcare organisations using the combined skills of our practice from deep technology capability, through methodology for its adoption to operational expertise and financial acumen. |
At Deloitte we are passionate about care delivery. We support health organisations with a wide range of challenges, from the design and implementation of system reforms to organisational performance improvement and the delivery of enabling strategies. Our ethos is to make a lasting impact for our clients, not only delivering improvement now but working alongside them with the skills and tools to embed and sustain change.

**Bill Hall**
Lead Partner Health Technology
+44 (0) 121 695 5147
bhall@deloitte.co.uk
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