

2017 Top Markets Report **Health Information Technology** Country Case Study

United Kingdom

Overall Rank

15

The United Kingdom is at an interesting intersection point regarding healthcare delivery and use of Health IT. Even though government entities oversee the entire healthcare system, led by the National Health Service in England (NHS England), decision-making is increasingly being decentralized to the trust/hospital level, creating abundant opportunities for U.S. exporters to pilot innovative new technologies. However, this abundance of opportunities can mean 1) trust/hospital officials need to be thoroughly educated about the technologies being presented to garner serious consideration for purchase, and 2) companies/consortia need to intimately know the rules for engagement at the trust/hospital system level in terms of presenting new technologies and submitting proposals for tenders/procurement.

Overview of the UK Market¹

The National Health Service in England (NHS England) is the largest public healthcare system in the United Kingdom (UK), providing services to 55 million people or 84 percent of the UK population. The size, structure and complexity of NHS England create a need for a vast, efficient digital health infrastructure. While successive governments have regarded digitalization as an essential component in tackling the social and economic challenges facing the NHS, the road to full digital maturity hasn't been easy (further information on the history of this effort appears below). The current NHS executive has committed the organization to become paperless by 2018 and achieve national interoperable electronic health records by 2020. It's also driving the adoption of innovative technologies to help clinicians and patients engage with the organization and monitor health. While it's unlikely these deadlines will be met, they demonstrate a strong commitment to making the NHS a fully digitalized organization, one capable of utilizing the latest innovations.

The other three public healthcare systems, NHS Scotland (servicing 5.2 million people), NHS Wales (3.2 million) and Health & Social Care in Northern Ireland (1.8 million), account for the remaining 16 percent of the UK market. All three have made progress towards digital maturity (such as the use of electronic health records and integrating medical imaging technology). They have invested significantly in Health IT, and have developed strategies to expand technology use. NHS Scotland is developing a new digital

¹ This information draws extensively from market research conducted by U.S. Commercial Service London, England, Commercial Specialist Cheryl Withers chief author, August 2017.

health and social care strategy, which it expects to publish at the end of 2017.² Northern Ireland’s “eHealth and Care Strategy” (2016) outlines its plans to increase the use of innovative technology.³ And NHS Wales describes its five-year digital health strategy in the document titled, “Informed Health and Care: A Digital Health and Social Care Strategy for Wales” (2015).⁴

History of Health IT in the UK

The UK Health IT systems sector is still evolving and will be worth an estimated \$2 billion in 2018. There’s an extensive history of NHS’s information technology implementation and policy; however, it wasn’t until 1992 that the government issued its first national strategy (*revised 1998 and 2002*), which led to the \$16 billion National Programme for IT (NPfIT).⁵ The NPfIT, marred by delays, over-spending and lack of clinical involvement or support, was discontinued in 2011.

Despite the delays and other challenges, the program achieved some notable successes:

- **National Infrastructure:** the “Spine” central portal aligns more than 28,000 Health IT systems in 21,000 organizations; GP2GP enables the transfer of patient records between primary care general practices (GPs); NHSmail is a secure, internal email service; and N3 is the national broadband network.
- **Patient NHS Number:** every NHS patient has a unique number which is used to share information across health and social-care organizations.
- **Electronic Health Records (EHRs), including the Summary Care Record (SCR):** an electronic summary of patient clinical information which assists with care delivery. The SCR is automatically created in GP practices and uploaded to the Spine. Over 90 percent of general practices have systems in place to allow patients online access to their records.
- **GP Online Services:** enables patients to book doctors’ appointments and refill prescriptions.
- **Electronic Prescriptions Service (EPS):** GP to pharmacy online e-prescriptions service.
- **Choose and Book:** NHS hospital and clinic e-Referral Service.
- **Picture Archiving and Communications System (PACS):** medical imaging technology.
- **Secondary Uses Service (SUS):** a repository of patient healthcare data used to inform policy, commissioning decisions, etc.
- **NHS Choices:** UK largest online health information website.

Challenges in the Health IT Sector

Since NPfIT, the level of success in digitizing healthcare across the primary and secondary care sectors (hospitals, clinics and community health) has varied greatly. Implementation within the primary care sector has been extremely successful, with almost 100 percent of GP practices having digital clinical record systems. In contrast, the NPfIT program, which primarily focused on hospitals, failed to fully digitalize and achieve interoperability. In 2014, the Government announced an additional \$5.4 billion Health IT investment over a five-year period to support digitalization, with interoperability being a key goal. There has been a shift from a centralized to primarily regional procurement structure; an introduction to implementation and tracking tools (such as regional digital road maps and digital maturity self-assessments); and added financial support for digitally advanced and pioneering hospital trusts called

² More information available at: www.ehealth.nhs.scot/strategies/the-person-centred-ehealth-strategy-and-delivery-plan-stage-one/.

³ More information available at: www.health-ni.gov.uk/publications/ehealth-and-care-strategy.

⁴ More information available at: <http://gov.wales/docs/dhss/publications/151215reporten.pdf>.

⁵ NPfIT 1998 and 2002 documents no longer available – archived by NHS.

“global digital exemplars,” which are tasked with achieving HIMSS EMR Adoption Model (EMRAM) Level 7. These initiatives are designed to support and determine the efforts or readiness of healthcare providers to achieve their commitments.

NHS England Digital Maturity Self-Assessment Tool

Section	Sub-sections	Description
Readiness	<ul style="list-style-type: none"> • Strategic alignment • Leadership • Resourcing • Governance • Information governance 	<p>An assessment of the organization’s ability to plan, deliver and optimize the digital system it needs to operate paper-free at the point of care.</p> <p>Q: Can providers plan and arrange digital services?</p>
Capabilities	<ul style="list-style-type: none"> • Records, assessments and plans • Transfers of care • Orders and results management • Medicines management and optimization • Decision support • Remote and assistive care • Asset and resource optimization • Standards 	<p>An assessment of the digital capabilities available to that organization and the extent to which those capabilities are available and being optimized across the organization as a whole.</p> <p>Q: Do staff members have the necessary skills?</p>
Enabling Infrastructure		<p>An assessment of the extent to which the underpinning infrastructure is in place to support delivery of these capabilities.</p> <p>Q: Is the right technology in place?</p>

Source: National Information Board (NIB): The Forward View into Action: Paper-free at the Point of Care – Completing the Digital Maturity Self-Assessment⁶

A survey of the 239 NHS hospital (acute) trusts released in April 2016 still found vast variations in the level of digital maturity across England (Source: NHS England). Most trusts said they could operate paper-free and have the infrastructure in place, but believe they lack the capability to use it, ranking themselves low in areas such as medicines management and optimization, and remote and assistive care. Funding and other more pressing operational pressures remain barriers with larger trusts, which typically have more resources, reporting greater success in achieving digitalization. *The Wachter Review*⁷ (2016) acknowledged the need to fully digitalize the secondary care sector but warned against proceeding too quickly. It advocated national funding for NHS trusts and pushing the timetable back to 2023. There’s some indication that the NHS has adopted this report’s recommendations. The process of achieving a safe and secure, 100 percent paper-less interoperable system is progressing. However, there is still some distance to cover to reach that goal.

Opportunities in the Health IT Sector

Technology Enabled Care (TEC)⁸

⁶ More information available at: www.england.nhs.uk/five-year-forward-view/.

⁷ More information available at: www.england.nhs.uk/digitaltechnology/info-revolution/wachter-review/.

⁸ NHS England Technology Enabled Care Services: www.england.nhs.uk/ourwork/qual-clin-lead/tecs/.

Another aim behind the government's digitalization strategy is to benefit clinical staff, patients and the general population, including provision of better care, improving patient experience when navigating within NHS, and using technology to facilitate more personalized care. It's hoped that the use of TEC will ease the increasing strain and financial demands on the NHS organization. The NHS is, therefore, committing resources in the following areas:

Telehealth and Telemedicine

The UK was an early adopter and is a keen advocate of using telemedicine (known as telecare in the UK) and telehealth technology. Country-wide pilot projects have been introduced with varying degrees of success. Initiatives that aim to support and encourage the use of innovative technology include the 2008 Whole System Demonstrator (WSD) program,⁹ the largest clinical trial of telehealth and telecare involving over 6,000 patients and 200 GP practices; the 3 Million Lives campaign (3ML);¹⁰ and the existing Technology Enabled Care Services (TECS) for Commissioners¹¹ program.

Projects have included:

- The implementation of a secure two-way video link system between a hospital telehealth hub and patients' homes, prisons and residential care homes, which led to a reduction in hospital admissions. The project was a success but highlighted additional challenges such as patient access to medications.
- Use of Florence, a text-messaging service linking 22,000 patients' phones to clinical computer systems to collect data and monitor health. Results found greater patient compliance with medication and appointment reminders as well as evidence of improved patient well-being.

Advances in technology, changing demographics and government incentives will help drive growth in this sector.

MHealth/Applications (Apps) & Wearables

The public-sector apps segment has the potential for significant growth. However, their use has raised questions about security and data standards, safety and value. For example, a recent study of mental health apps found very few apps that were able to back up their claims of effectiveness.¹² The segment can be divided into private general consumer personal health and fitness apps and more clinical offerings that are facing more stringent checks by the NHS. Notable successes have included Big White Wall's¹³ online mental health support service which can be accessed privately or by NHS doctor referral; and Babylon's¹⁴ video or telephone GP consultation and prescription service. In April 2017, NHS England re-launched its new digital apps library,¹⁵ an expanding showcase of evidence-based, approved apps, and a separate developer site for testing and launching healthcare apps.¹⁶

⁹ More information available at: www.gov.uk/government/news/whole-system-demonstrator-programme-headline-findings-december-2011.

¹⁰ More information available at: <http://3millionlives.co.uk/>.

¹¹ See footnote 7 for link to more information.

¹² Simon Leigh and Steve Flatt (2015), University of Liverpool BMJ Journal. App-Based psychological interventions: friend or foe? <http://ebmh.bmj.com/content/18/4/97>

¹³ More information available at: www.bigwhitewall.com/.

¹⁴ More information available at: www.babylonhealth.com/.

¹⁵ More information available at: <https://apps.beta.nhs.uk/>.

¹⁶ More information available at: www.digitalmarketplace.service.gov.uk/.

Wearables are popular, with consumer-health and fitness trackers comprising the largest share of the market. Growth has been constrained by the high cost of devices. In 2016, the Secretary of State for Health announced plans for the NHS to move into wearables.¹⁷ Fitbit is currently talking to the NHS about developing a fitness tracker scheme, and the NHS is conducting trials of various wearable tech devices such as Snap 40¹⁸ and eLucid mHealth.¹⁹ Continued expansion in the use and types of innovative wearable devices, such as bio-sensing devices, is likely in the UK.

Healthcare Data Analytics

The NHS began capturing patient data in 1989. Today, a vast amount of information is collected from various NHS agencies and used to assess trends in public health, inform commissioning or clinical decisions, and assess performance. There is potential to go even further if the NHS can develop a strong infrastructure and employee skills base. However, NHS is already seeing the collection and use of data being put to good use in fields such as genomics and precision health. One hurdle will be to overcome the high level of mistrust among the population towards the sharing of data, especially with private-sector organizations.

Consumers and NHS agencies (including NHS Digital, NHS Trusts, which includes acute, mental health, and ambulance services), and Clinical Commissioning Groups) are key prospective buyers for Health IT technology in the UK. Examples of some current and best prospect areas in Health IT include:

- Clinical efficiency tools
- Apps and wearable technology
- Health Analytics (data analytics, machine learning, etc.)
- Remote consultation and monitoring devices
- Home care and age-related technology

Indeed, the UK is a welcome market for U.S. health IT companies. Many U.S. companies are present in the market, and the UK and U.S. health departments liaise closely on digital initiatives and policy.²⁰ Potential U.S. exporters to the UK market are advised to begin by gaining an in-depth understanding of their respective UK industry segment (NHS contracts, competitors, EU or NHS standard and regulations) and building contacts to establish the best method of entry, such as the establishment of a UK office or use of a local partner. The procurement process can take time and does tend to work in favor of existing suppliers. The procurement route, which will vary depending on the product or service, includes:

- National, centralized framework agreements with organizations such as NHS Digital. For example, the GPsoc agreement enables GP practices to choose systems from four suppliers.
- NHS trusts may buy individually or pool resources with each other for procurement decisions or work through collaborative procurement hubs. All public-sector bodies including NHS agencies are subject to European Union procurement law, which specifies that high value contracts must be advertised on

¹⁷ More information available at: <https://developer.nhs.uk/apps/>.

¹⁸ More information available at: www.snap40.com.

¹⁹ More information available at: www.elucid-mhealth.com/.

²⁰ The U.S. (Department of Health and Human Services) and UK (Secretary of State) signed a Memorandum of Understanding regarding closer cooperation in health data exchange in 2014.

Tenders Electronic Daily (TED).²¹ In the UK, it is also mandatory for all public-sector organizations to advertise their procurement opportunities worth over £10,000 (\$13,000) on Contracts Finder.²² Lower value contracts will be advertised in local publications.²³

- Websites such as the G-Cloud Digital Marketplace.²⁴ Potential suppliers of cloud hosting, cloud software, etc. can apply to join the framework via this site.
- Companies favoring a more direct method are welcome to approach relevant NHS agencies directly.

²¹ More information available at: <http://ted.europa.eu/TED/misc/chooseLanguage.do>

²² More information available at: www.gov.uk/contracts-finder.

²³ Under The Public Contracts Regulations 2015 “contracting authorities shall treat economic operators equally and without discrimination and shall act in a transparent and proportionate manner”

<http://www.legislation.gov.uk/uksi/2015/102/contents/made>. The aim is to ensure competition, equal treatment and openness in the procurement process. Advertising lower-value contracts ensures this principle is adhered to. These contracts can be advertised through a variety of sources such as trade journals, regional publications, consultants or online NHS e-tendering portals etc. Example: Portsmouth Hospitals NHS Trust is a regional hospital trust which operates one hospital (<http://www.porthosp.nhs.uk/>). Its procurement is handled by another NHS organization South of England Procurement Services which operates an online site (In-Tend) <http://soeprourement.nhs.uk/supplier-login/>. Portsmouth’s higher value contracts will also be advertised in Contracts Finder or Tenders Electronic Daily (TED) in accordance with European Union rules.

²⁴ More information available at: www.digitalmarketplace.service.gov.uk/.