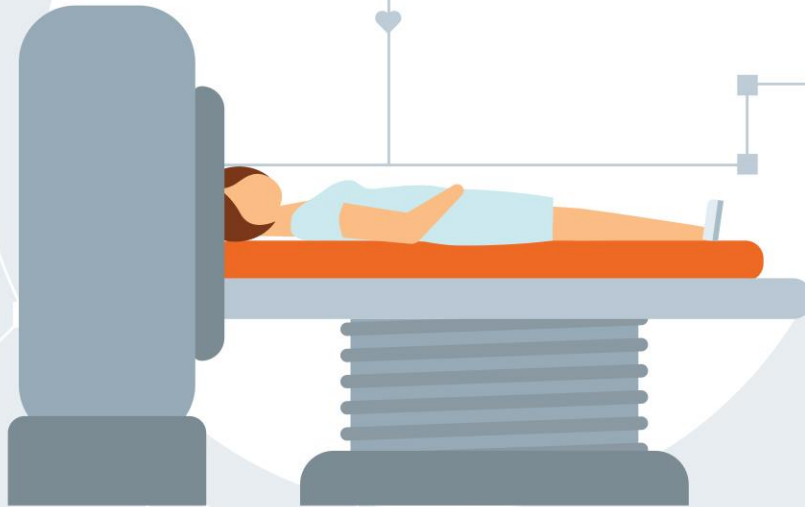


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Priority Investment

Part 3 – Smart, digitalised hospitals

*A Siemens Financial Services (SFS) Insight Series,
November 2019*

Part 3 – Smart, digitalised hospitals

Top investment areas for digital transformation in healthcare, the size of the investment challenge, and how to manage that challenge



Rising Pressures

The global rise in chronic conditions continues to increase exert pressure on hospitals. That pressure has focused acute care minds on seeking operational and clinical efficiencies in order to transform healthcare delivery, so that access to health services is managed without a concomitant escalation in costs.

Digital Transformation

Digital transformation is helping to ease this pressure by creating ‘smart’ hospitals that themselves link into ‘smart’ healthcare systems. The situation is summarised by another analyst thus, “Digital healthcare will make it easier for people to access services more quickly, while providing staff greater visibility of the information they need to treat patients efficiently and effectively. This will help to bridge the gap between the challenge of increasing demand for healthcare and the growing level of staff shortages.”¹

“So what are the conditions that make it more favourable for technology solutions to be successful in health and care? Doctors and nurses are looking for solutions that are easy to use, fit in well with existing clinical processes, do not interfere with the interaction with the patient, make the job easier by reducing workload, support decision making and reduce clinical and personal risk. To do all of these things there requires to be significant time and effort spent on co-design. This is often less about the generic product but how the service wrap around is developed to support an informed redesign rather than dictating the working practices of staff.”

Professor George Crooks, OBE MBChB FRCP FRCGP, Chief Executive Officer, Digital Health & Care Institute

Priority Investment – Smart Hospitals

Healthcare experts globally responding to our latest SFS Insight study identified three priority areas for investment in digital transformation – one of which was “Smart, digitalized hospitals”. Growth in smart hospital development is evidenced by recent research data. The global smart hospital technology market is valued at \$20.13 billion in 2018, rising to \$56.63 billion in 2023, a compound growth rate of 23% per year.

Smart Hospital Applications

Smart hospital applications include: digitally linked diagnostics; artificial intelligence to shorten exam times and improve radiographer productivity; digitalized asset tracking, dramatically reducing delays and cancellations; predictive maintenance that keeps precious technology and facilities available when they are needed; computer-aided surgery, to lengthen the effective time that the beneficial effects of surgery will last for the patient; digital pharmacy automation to avoid medication errors or duplicate prescriptions; digital links to help manage the holistic delivery of precision medicine, along with therapeutic adherence; and even buildings intelligence to improve energy efficiency, the savings from which can be used to subsidise the cost of digital transformation.

Smart Hospitals in the UK

In the UK, The Royal Wolverhampton NHS Trust has been designed as the first hospital to put in place a pilot project aimed at providing real-time monitoring of bed capacities.² TeleTracking Technologies allows the hospital to track real-time bed capacities through bracelets and badges connected to patients, staff and equipment. Patients are allocated to the most appropriate ward first time, ensuring they receive care from a medical and nursing team who are experts in their particular condition. This has helped the trust reduce on the day surgical cancellations due to lack of beds by 60%.³ Through better management of hospital resources, the facility is also able to free up precious nursing time for patient care.

Similarly, eTriage systems can help A&E departments prioritise patients. One hospital in London found that 99% of patients were able to undergo initial assessment within 15 minutes of arriving at the hospital using their eTriage system, well above the UK’s nationally mandated target of 95%.⁴ It also took 85% of patients less than one minute to check in and time to treatment was reduced by an average of seven minutes per patient.⁵

The Investment Challenge

Digital transformation, however, even simply for Smart Digitalized Hospitals, requires considerable capital investment – way beyond the normal capital budgets in healthcare. This paper conservatively estimates the ‘investment challenge’ for new generation diagnostics in the UK is \$1.7 billion (£1.3 billion) over the next five years.⁶

Figure 1 – The investment challenge



The ‘investment challenge’ for new generation diagnostics in the UK is \$1.7 billion over the next five years.

Sustainable Investment Techniques

Investing in smart hospitals, however, is difficult to afford within existing capital budgets. Healthcare organisations are therefore increasingly using flexible financing arrangements from specialist providers that offer a sustainable means achieving digital transformation.

Specialist finance providers are offering sustainable tools for digital transformation, and take-up of these arrangements is growing strongly across the globe.⁷ These specialists understand the underlying technology, how it is best deployed, and the kind of benefits it can deliver in practice. This enables them to structure financing arrangements that accommodate equipment, software, integration costs, maintenance, service, training, installation, facilities, even expert personnel – all into a single monthly payment structure. In some cases, those payments are predicated against clinical/patient outcomes/experiences.

A detailed description of the key specialist financing techniques for digital transformation may be found at [SFS URL].

1 Deloitte, Digital lags behind in healthcare: Two-thirds of senior healthcare leaders say it will take more than a decade for healthcare services to be fully digital, 13 Jun 2019

2 NHS Improvement, Pilot trusts using real-time technology to increase bed capacity, Apr 2017

3 NHS Improvement, Pilot trusts using real-time technology to increase bed capacity, Apr 2017

4 Verdict, eTriage system aims to transform urgent care centres, 15 Apr 2019

5 Verdict, eTriage system aims to transform urgent care centres, 15 Apr 2019

6 Methodology: Based on projected market value 2019-2023, minus current financing penetration, and just 50% market conversion to digital transformation. Sources: Reports Intellect, Netscribes, Market Research Futures, Markets & Markets, HIS Markit, Zion Research, Research & Markets, Morder, Technavio, GM Insights, Orbis, BCC, P&S Intelligence, Leaseurope, White & Clarke

7 Research Nester, Medical Equipment Leasing & Rental Market to Grow at a CAGR of Over 7.1% through 2024, 26 Sep 2017

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Siemens Financial Service
Sefton Park,
Bells Hill, Stoke Poges,
Slough SL2 4JS,
United Kingdom

For more information:

Phone: +44 (0)1753 434 409

E-mail: healthcarefinance.sfs@siemens.com

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