

The background of the entire page is a light gray with a network of white lines and squares, resembling a circuit board or a data network. In the center, there is a large white circle containing an illustration of a patient lying on a medical table, being scanned by a large gray medical device. Above the patient, there is a small orange box with a bar chart and three upward-pointing arrows. To the left of the patient, there is a hand holding a smartphone displaying a medical interface. To the right of the patient, there is a small illustration of an ambulance with a red cross and a person standing next to it. In the top left corner, there is a white box containing the Siemens logo and tagline. In the bottom right corner, there is a white box containing the website address.

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Priority Investment

Part 3 – Smart, digitalized hospitals

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Part 3 – Smart, digitalized 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 exert pressure on hospitals. This pressure has caused healthcare professionals to look for ways to improve operational and clinical efficiency. In this way, they hope to transform healthcare delivery, so that access to health services is managed without a corresponding 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

"We are into healthcare consultancy and to be precise, in data analytics. We majorly find most of organizations, be it a small size proprietor or national level giant, all use multiple softwares to handle their different departments i.e. operations, stores, accounts, logistics, HRMS & Payroll. I personally find that any healthcare organization can multiply its growth if it rightly utilizes digital technology. However, one should understand that implementing software is different than utilizing its output. There are many useful tools available which help organizations to connect the dots and make it usable to increase their revenue or profit."

Johar Sabuwala, CFO, HN Reliance Hospital, Mumbai

Given the widely recognized benefits of digitalization; it has the potential to significantly impact a healthcare organization's competitiveness and success. If it fails to invest and cannot provide a standard of care comparable to its competitors it will lose patients. Similarly, it will not benefit from the reduced operational costs that digitalization can bring. Many healthcare organizations also see investing in digital transformation as an essential duty under their social contract. They feel duty-bound to deliver the benefits of digitalization, whether in terms of improved patient outcomes, operating efficiencies, or access to personalized precision medicine.

Priority Investment – Smart Hospitals

Healthcare experts globally responding to our latest SFS Insight study² identified three priority areas for investment in digital transformation. These are *Smart, digitalized hospitals*, *New generation (digitalized and/or mobile) diagnostics*, and *Remote access and communications platforms (Telemedicine)*.

Growth in *Smart digitalized 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 subsidize the cost of digital transformation.

Smart Hospitals in India

The Indian Ministry of Health & Family Welfare has undertaken various initiatives using Information & Communication Technologies (ICT) to improve the effectiveness of the public healthcare system.³

Although consistency of care across the country needs to be addressed there are instances of hospitals in India embracing smart technology. One such hospital in Gurgaon, India has state-of-the-art diagnostic technologies, India's first stem cell lab and voice modulated integrated operating theatres.⁴ The facility also possesses a "complete spectrum of diagnostic and therapeutic technology", including several state-of-the-art technologies like digital broadband MRI imaging and a revolutionary "Brain Suite" featuring intra-operative CT used for the brain and the spine.⁵

Smart diagnostic imaging has potential to make an impact on the long-term health of the Indian population. Currently, over 20% of citizens suffer from chronic diseases⁶ which if spotted earlier can be treated far more swiftly and accurately.

Earlier this year, India's government published its ambitious National Digital Health Blueprint (NDHB), outlining its intention to leverage digital technologies as a means to greatly enhance its healthcare provision. The proposed strategy is focused on improving access to quality healthcare while lowering the cost of its delivery. The publication of the NDHB and its open invitation for feedback from the public highlights the seriousness with which the government is approaching the digital future of healthcare. It suggests a promising future for the development of smart hospitals in India.⁷

The Investment Challenge

Digital transformation, however, even simply for Smart Digitalized Hospitals, requires considerable capital investment – typically beyond normal capital budgets available to healthcare providers. This research conservatively estimates the 'investment challenge' for Smart Hospitals in India is \$2 billion over the next five years.⁸

If healthcare organizations were to buy the equipment and technology required for digital transformation outright, a large volume of funds would become 'frozen' – locked into those capital purchases and not available for urgent operating requirements. This would put unacceptable pressure on operating budgets, which are already under pressure as healthcare demand increases. Typical capital spending budgets in healthcare – usually around 5% of total operating budgets – clearly do not offer sufficient capacity to cope with the required scale of investment.

Increasingly, healthcare organizations are turning to specialist private sector financing tools to help manage the digital transformation. This helps to transform the efficiency and effectiveness of healthcare delivery without having to find large sums of capital. Instead, private sector capital is being deployed to acquire the necessary technological and equipment base.

Figure 1 – The investment challenge



The ‘investment challenge’ for new generation diagnostics in the UK is \$2 billion over the next five years.

Sustainable Investment Techniques

Healthcare systems are therefore increasingly harnessing private sector capital, particularly flexible financing arrangements from specialist providers that offer a sustainable means of achieving digital transformation.

Specialist finance providers are offering sustainable tools for digital transformation, and take-up of these arrangements is growing strongly across the globe¹. 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 [here](#).

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 Research Methodology:- 53 specialist management consultants, academic commentators, national health departments, medical associations and acute care organizations/groups were interviewed in thirteen countries around the globe, accessing intelligence indirectly from hundreds of healthcare institutions. The research period was May-July 2019. The qualitative interviews explored where respondents saw the greatest and quickest value would come from digitalization in healthcare.

³ Indian Ministry of Health & Family Welfare website

⁴ *Top Masters in Healthcare, 30 Most Technologically Advanced Hospitals in the World*, 24 Mar 2014

⁵ Ibid

⁶ LiveMint, *Over 20 % of Indians suffer from chronic diseases: report*, 4 Oct 2016

⁷ Ministry of Health & Family Welfare Government of India, *National Digital Health Blueprint*, Apr 2019⁸ 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

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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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