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Priority Investment

Part 1 – New generation (digitalized and/or mobile) diagnostics

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

Increasing Healthcare Burden

According to the World Economic Forum just five non-communicable diseases could cost the global economy $47 trillion by 2030.[1] This comes as a result of ageing populations, changing lifestyles and diets, rising levels of chronic complaints such as diabetes, cancer and heart disease, which are rapidly increasing the pressure on healthcare systems around the world.

The Contribution of Digital Transformation

Digital transformation (amongst other factors) holds the key to managing this situation. By making more accurate diagnoses and interventions earlier, and using precision therapies, the proportion of illnesses that become acute and/or chronic can be reduced. More accurate surgeries prevent re-admissions or later-life complications. Patient monitoring provides early alerts that save lives and halt the progression of a condition. Remote, online connections to clinicians, technicians and equipment improves access to healthcare. In short, digital transformation helps healthcare systems transform healthcare delivery and optimize the value from every unit of spend, which in turn makes them more profitable and competitive.

Failure to invest in these key areas of digital transformation is therefore a failure to deliver important benefits in healthcare systems. These can be in terms of improved patient outcomes, operating efficiencies, or access to personalised precision medicine. Healthcare organizations that fail to invest will therefore find that patients seek a higher standard of care elsewhere.

"Digital technologies play a key role. It can help in providing better transparency and portability of patient data and reduce transaction cost. Especially, in EMR (Electronic Medical Records), if effectively rolled out, can help in reducing duplication, storage, retrieval and faster decision making, which at times can be a life and death situation."

Johar Sabuwala, CFO, HN Reliance Hospital, Mumbai

Priority Investment – New Generation (mobile and digitalized) Diagnostics

Healthcare experts globally responding to this latest SFS Insight study[2] identified three priority areas for investment in digital transformation – each of which they judged to hold the highest potential for rapid positive impact on pressurised healthcare infrastructures and operations. These are *New generation (digitalized and/or mobile) diagnostics*, *Remote access and communications platforms (Telemedicine)* and *Smart, digitalized hospitals*.

"*New generation* (*digitalized and/or mobile*) *diagnostics*" solutions link point of care diagnostics and static (sometimes remote) diagnostics centres to the patient and the doctor, wherever they are. Access to accurate, early diagnoses is broadened, helping to reduce the healthcare burden by ensuring that patients are treated quicker and their outcomes improved.

Equally, big data analytics of historical scan data allows algorithms to be built that automatically spot anomalous tissue and highlight these results to the radiographer and clinician. Such automation naturally captures and deploys best-practice standards of diagnostic interpretation that create consistency and reduce unwarranted variations. More consistent diagnostic standards are then linked to precision therapies based on the patient's unique phenotypic (physical/behavioural) characteristics and genetic characteristics.

Digitalized Diagnostics in India

The diagnostic imaging market in India can be categorised into four main segments: - private hospitals, medical colleges, government hospitals and diagnostic centres. As the government readies itself to permit 200 medical colleges to open in the next 10 years and cover the shortage of doctors, a significant portion of the demand for radiology products is expected to come from this segment.

The sector, in common with many other countries, suffers from a shortage of radiologists, despite the growth in diagnostic imaging equipment.[3] This is precisely where digitalized diagnostics helps to solve the issue. Artificial Intelligence conducts the larger part of image interpretation. It automates the work and presents a series of conclusions for the radiologist to validate. Throughput per radiologist and accuracy levels are increased. The pressure to train radiologists is not eliminated, but is instead greatly reduced

To combat the more general urgency of this situation, the Indian government published its National Digital Health Blueprint (NDHB). This aims to leverage digital technologies for "increasing access, improving quality and lowering the cost of healthcare delivery."[4]

Although some consider the timeline of deployment of this plan to be too ambitious, overall feedback has been positive and reflects the extent to which such technological advancement could enhance the healthcare experience in India.[5]

The Investment Challenge

Digital transformation, however, even simply for New Generation (digitalized and/or mobile) Diagnostics, requires considerable capital investment – typically beyond normal capital budgets available to healthcare providers. This research conservatively estimates the 'investment challenge' for new generation diagnostics in India is $1.8 billion over the next five years.[6]

Given that capital spending budgets in healthcare around the world are typically around 5% of total operating budgets, such a scale of investment is not within the capabilities of normal funding levels.

Moreover, if healthcare systems were to buy the technology required for digital transformation outright, this would tie up a high proportion of funds which are needed for urgent operating expenditure. Such levels of 'frozen capital' are simply not viable nor sustainable in today's pressurized healthcare environment.

Healthcare organizations are therefore expected to increasingly rely on specialist private sector financing tools to help manage the digital transformation. Doing so leads to faster access to improved patient outcomes and increased efficiency. Deploying private sector capital to acquire the necessary technological and equipment base allows digital transformation to be achieved without 'freezing' unacceptable levels of funding.

Figure 1 – The investment challenge

The 'investment challenge' for new generation diagnostics in India is $1.8 billion over the next five years.

Investing Sustainably

Healthcare systems are therefore increasingly harnessing private sector capital. In particular they are using flexible 'pay for usage' financing arrangements from specialist providers that offer a sustainable means of achieving digital transformation.

A select number of healthcare organizations are deploying arrangements that deliver enterprise solutions – technology, equipment, training, maintenance, facilities, people – all bundled up into a monthly fee. Most healthcare institutions, however, are increasing their deployment of pay-for-usage arrangements around equipment or individual facilities – usually based on some form of leasing structure. These allow the monthly cost of access to essential digitalized technology (a combination of hardware and software) to be aligned with the rate of benefit being gained. Benefit can be measured by success parameters such as reduced diagnostic error rates, improved time per procedure, more rapid triage, wider access to healthcare services, and so on.

A detailed description of the key specialist financing techniques for digital transformation may be found here.

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[1] *Stanford University Public Policy Program, Non-communicable disease could cost $47 trillion by 2030, 9 Mar 2017*
[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] *The Times of India, Apollo Hospital partners with RCR to address shortage of radiologists in India, 29 Mar 2018*
[4] *Ministry of Health & Family Welfare Government of India, National Digital Health Blueprint, Apr 2019*
[5] *India Digital Health Net, Response to the Invitation for Public Comment: National Digital Health Blueprint, 4 Aug 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*

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