Digital Disruption meets Indian Healthcare—the role of IT in the transformation of the Indian healthcare system
Introduction

While the Indian healthcare system has made important progress over the last decades, addressing remaining and new challenges will require a gradual but fundamental transformation of the system. This transformation will take place at many levels and include changes to everything from governance structures to infrastructure. But it is also clear that technology will play a key role in this transformation, whether it is the introduction or upgrade of basic technology infrastructure or adoption of emerging technologies.

Recent research from Accenture, The Accenture Healthcare IT Vision 2015, highlights emerging technologies that will be an important enabler in the transformation of healthcare. While planning for and implementing long-term, fundamental technological changes, Indian healthcare decision makers should obviously have a vision of the end-state of this transformation, but also keep informed about key technology development and the implications it is having on the healthcare ecosystem. For example, US healthcare executives, interviewed for the Accenture Healthcare IT Vision 2015, expect that within the next three years, their industry will need to focus as much on training machines as they do on training people. This insight may seem irrelevant to Indian healthcare executives today, but this is exactly the type of development that should be monitored in parallel to the step-by-step approach of transforming the Indian health system.
Current state of Indian healthcare

Since its independence, India has taken major leaps in its healthcare sector. Health indicators such as life expectancy and mortality have significantly improved. Diseases like small pox and polio have been eradicated. Despite this progress the Indian healthcare system is surmounted with challenge of accessibility, quality and affordability which varies substantially amongst providers in both public and private sector.

Approximately 70% of India’s population resides in rural areas and is heavily dependent on the public healthcare system due to low cost of care. However, the quality of care in public healthcare system lags behind global standards as it suffers from underfunding, inadequate infrastructure and shortage of skilled professionals with huge regional disparities across states. All these factors coupled with the growing burden of population and non-communicable diseases (NCDs) will make the Indian health system further unsustainable. Private providers in India are ahead in Healthcare IT adoption and have grown across the healthcare value chain to offer quality health services. They are investing in specialized technologies to increase customer satisfaction by personalized and quality healthcare services. Private providers are also expanding their foot prints in semi-urban and rural areas through the use of innovative technologies such as telemedicine and home health services. Apollo, one of the leading private providers was the first hospital to set up a rural telemedicine center in 1999. The development of public and private healthcare sector in parallel capacity is poised to change the healthcare landscape of the country.

Figure 1–Current Status of Healthcare in India

- Population resides in rural areas with limited access to quality healthcare
- Total Health Expenditure, less than OCED avg. of 9.3%
- Percentage of GDP as public spending on healthcare
- Out of Pocket Expenditure
- 0.9 Hospital beds/1000 patients
- 0.7 physicians/1000 patients
- 60% of deaths due to NCD
- 65 million people with diabetes, projected to increase to 109 million by 2035

~ 70%

~ 60%

~ 4%

~ 1.3%
Emerging healthcare technologies

Technology has long been a valued resource in healthcare globally, but adoption has been slower than in other industries. Now, more than ever, it is critical to embrace technology as it has become a must-have tool for transforming patient engagement, enabling personalized medicine, augmenting labour and contributing to better outcomes.

The Accenture Healthcare IT Vision 2015 reveals five trends that prove that digital solutions are dramatically influencing the industry today, and will continue to do so for decades to come (fig. 2).

The Internet of Me: Your healthcare, personalized
Welcome to the era of personalized healthcare defined by meaningful and convenient individual health experiences.

Outcome Economy: Hardware producing healthy results
New intelligence is bridging the digital enterprise and the physical world. It’s about more than technology; it’s about delivering results.

The Platform (R)evolution: Defining ecosystems, redefining healthcare
Health IT platforms capture data from disparate source (e.g., wearables, phones, glucometers), and connect it to provide patients and caregivers a holistic and real-time view of your health.

Intelligent Enterprise: Huge data, smarter system, better healthcare
A data explosion, accompanied by advances in processing power, health analytics and cognitive technology, is fuelling software intelligence. Medical devices and wearables can now recognize, “think” and respond accordingly.

Workforce Reimagined: Collaboration at the intersection of humans and health
As the digital revolution gains momentum, doctors and healthcare workers are now using machines to be more cient, provide better care and take on increasingly more complex tasks.

Figure 2–The Accenture Healthcare IT Vision 2015–Key trends
While not all of these trends are immediately relevant to the transformation of the Indian health system, a number of the described technology solutions are enabling the transformation to more effective and efficient healthcare delivery in India as well (fig. 3).

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<th>Key Drivers of change</th>
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| Ageing populations          | Preventative care • Movement from reactive care towards preventative and early-intervention care  
                                • Population Health, Health Management programs | • Advances in predictive analytics empowering population health programs                        |
| Increasing prevalence of Chronic Diseases |                                                                                      | • Sensors are getting more sensitive and significantly less expensive, enabling health wearables to be used more broadly in health management programs |
| Strained Public Finances    | Shifting locus of care • Steering patients away from hospital care towards primary care settings or treatments in the home | • Telemedicine platforms enabling rural patients to be examined and interact remotely with specialist physicians through local primary care settings |
| New Regulation              | Workforce productivity focus • Staff costs represents the main cost segment for health providers  
                                • Insufficient supply of healthcare workers  
                                • Workforce productivity increase has lagged other industries | • Surgeons using wearable devices to make more informed decisions about the patient during a procedure |
| The rise of the Healthcare Consumer |                                                                                      | • Sensors enabling remote patient monitoring                                                |
|                             |                                                                                       | • Physicians leveraging analytics to make better diagnoses                                   |
|                             |                                                                                       | • Video consultations and remote specialist support empowering local physicians and nurses   |

Figure 3–Emerging technology solutions impacting key Indian health trends
Addressing challenges in India

To reform the Indian healthcare system and create a culture of health and wellness the government needs to strengthen the public health system by increasing spend on healthcare, closing the infrastructure gap and addressing the workforce scarcity. Technology represents an important means in overcoming these challenges and driving effectiveness and efficiency to bring the much needed change. Over the last decade government and national policies have emphasized the use of ICT to improve healthcare delivery and outcomes in India. Yet, healthcare technology adoption in the public sector is still in a nascent stage and it will be a long-term process including interventions at multiple levels of government and health systems to reshape the paradigm of healthcare in India (See Figure 4 below).

Figure 4–The Journey to Connected Health in India
Conclusion

Given the state of the Indian health system today and the size and diversity of the population, the transformation needs to unfold in parallel tracks. A steady stream of changes to the basic system and infrastructure are needed in order to address accessibility, affordability and other key challenges. But at the same time it is important to keep one eye on the future and plan for more advanced options such as connected health, personalization of care that’s truly digital.

The need of the hour is to embrace technology in healthcare with end-to-end integration in all aspects of healthcare including planning, delivery and monitoring. Technology will be a key enabler to narrow the gap between growing demand and supply of healthcare facilities and will aid in developing a sustainable, more inclusive and collaborative health ecosystem. Providers need to look to connected devices, virtual care tools, analytics, etc. to improve utilization, workforce optimization and access.

For the long term, technology will be a vital tool for patient engagement, enabling personalized medicine, augmenting labour and contributing to better outcomes. To learn more about this, please visit the Accenture Healthcare IT Vision 2015 website.
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