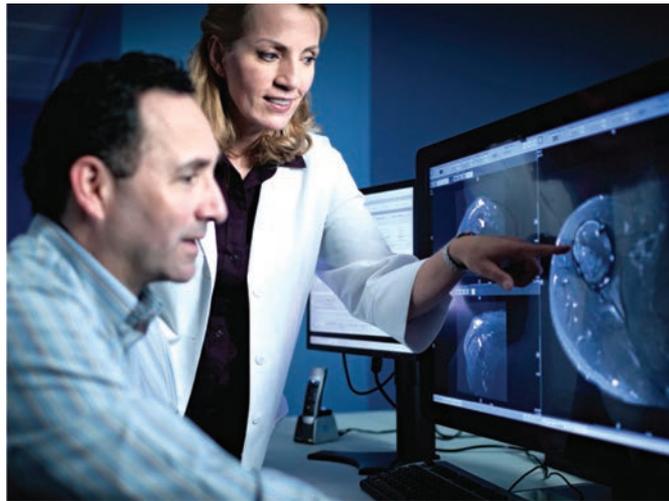


# Transforming Healthcare

Digital health will be at the core of transformation in healthcare

## Successful digital transformations that healthcare can learn from

- Snapdeal recorded over a billion dollars of turnover in India. Hospitals that fail to adapt to industry disruptions will lose competitive edge.
- eLearning is next big trend. A growing base of consumers is learning languages and music using online messenger services like Skype. We are sure healthcare will soon adapt this channel.
- Consumerism will force companies like Trip Advisor to look beyond hotels & rate doctors and hospitals. People will check which doctor has good rating & which hospital has best rates.
- Priceline allows reverse bidding and hotel options at low price. In future, customers may opt for similar services for healthcare like a knee surgery, diagnostic services, standard operations like hernia, cataract etc.



By: Murli Reddy & Dr. Neeta Bhatia

Mr. Narendra Pawar, 64, is a diabetic on oral medication. Last week, he experienced a bout of light headedness with incoherent speech, blurred vision and couldn't recognise his immediate family members. Being relatively new to the city, the family spent precious minutes in panic deciding where to take him. The family then consulted their neighbours and rushed him to the emergency room of a premium hospital in the city.

The symptoms he had in the emergency room confirmed the diagnosis as a case of antibiotic induced hypoglycemia. He was immediately put on a glucose

drip and advised 48 hours of hospitalisation for observation.

Mr. Pawar spent the time under the diligent care of nurses with regular visits by the hospital's endocrinologist. He was generally comfortable, eating regular food, sleeping well and keeping active during his stay just like any other day of his routine life. The hospital staff was extremely attentive, regularly monitoring his blood glucose levels and other vitals. Having monitored him for two days and reviewing his anti-diabetic therapy, doctors discharged him from the hospital.

This unfortunate episode cost Mr. Pawar INR 16,000, which included hospitalisation charges and nursing. This was a modern hospital equipped

with advanced infrastructural facilities, and decent investment on information technology. Mr. Pawar was well managed by the hospital; however, we are compelled to question the following:

- Blood sugar levels were monitored and recorded manually with a portable glucometer, was the hospitalisation required after the initial administration of glucose?
- Is the IT investment made by the hospital limited to only administrative improvement?
- Was the hospital truly leveraging digital technology to create an ecosystem of care?

In a digital environment, the event could have been handled in a smarter way. In an event of a patient collapsing at home, the family may have looked up the nearest and best hospital on a smart phone, dialed for the ambulance, or chosen to drive down to the hospital and navigated using Google Maps. Post primary treatment with Glucose infusion, the patient could have gone home with a glucometer that costs around 1,400 INR, measured his readings himself, and transmit the blood sugar level information to the doctor and nurse using a blue tooth device

on the hospital's smartphone app. The hospital could have remotely monitored the patient sending reminders, or using online messenger services.

In the event of any aggravated condition, the hospital could have requested the patient to visit the hospital again. Moreover, the payment could have been made using any e-payment mechanism. The overall bill for such monitoring would have been less than 5,000 INR, including the cost of the glucometer that can be used by Mr. Pawar in future too to avoid such issues.

The world is rapidly changing around us. There is growing consumerism, a demand for transparency and convenience at the swipe of a finger. This has thrown up new leaders across industries be it retail or banking or publishing. Digital transformation has enabled the online market place like Snapdeal.com to have more than a billion dollar transactions, and offer discounts that are much higher than the season's discounts of a normal retail store. The patient consumer today is already used to dashboards in his car alerting him to possible

problems in his car or at home. It is just a matter of time before this consumer will demand, and not just expect, the same level of monitoring and reporting about his own health.

We are already seeing this trend with fitness trackers and heart rate monitors. The increasing focus of venture capital in startups around digital health indicates this trend is here to stay. Digital health is going to be at the core of transformation in healthcare. The future of medicine and healthcare is poised to be predictive, preventive, personalised and participatory medicine focused on preventing illnesses and enhancing wellness through patient's participation. Are physicians, hospitals, insurance companies, patients (consumers), government, and administrators ready to embrace this change, is a question to ponder.

#### Adoption barriers

- Myth about digital healthcare reducing hospital's revenue: There is a prevailing belief that digitalisation will reduce hospital's revenue by making



the patients self-sufficient.

As a matter of fact, if the hospital and the doctors are seeing more patients by leveraging the digital technologies, the volumes, and therefore the revenues, will go up significantly.

As depicted in the figure, medical models will slowly evolve and benefit the healthcare providers in the long run.

- Notion that there is a security risk: Most stakeholders of the healthcare industry believe digitalisation will affect security. There certainly is a risk to privacy and medical regulations. However, controls can also be built to ensure privacy and compliance with medical regulations. Certain vulnerable sectors like financial institution and credit card companies have long surpassed these hurdles and successfully overcome security issues.
- User Resistance: There is a high possibility that a senior physician may be reluctant to use smart phones and tablets. While the necessity may not be acutely felt in diagnosis and treatment, digital technology can certainly be leveraged in areas related to prevention,



#### About the author

Murlu Reddy is the Global Head of HealthCare & LifeSciences Business Unit of Syntel. Mr. Reddy joined Syntel, a company headquartered in Troy, Michigan, in 2003 as the Delivery Director for its Automotive Business. In this role, he was instrumental in doubling the Business Unit's team in two years. In 2006, he was selected to lead the Health Care Business Unit where he has built a strong domain team and developed several new services for the Payer and Provider, LifeSciences & Product Segments.

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## Analytics in Healthcare

### Analytics: The Nervous System of IT-Enabled Healthcare

The healthcare industry is moving from volume-based reimbursement to value-based reimbursement that is designed to achieve higher quality, lower costs, and a better patient experience. To succeed, healthcare providers are forming accountable care organizations (ACOs) and restructuring their care delivery systems.

Collecting the Data Clinical Intelligence (CI) Business Intelligence (BI) Performance Evaluation





If hospitals embark on a Big Data solution that includes EHRs, the overall engagement will cover the entire care cycle in a proactive manner



**About the author**

Dr. Neeta Bhatia is a Homeopath by education and has around 12 years of experience in program management, domain knowledge & learning development; healthcare IT, branding & marketing services for the healthcare sector. Currently associated with Syntel's HCLS Business Unit as a Business Analyst, Dr. Neeta is part of Syntel's Digital Tx team working on disruptive technologies that promise to transform the future of healthcare.

post-acute care monitoring, and chronic disease monitoring, rehabilitation and patient education.

- Regulations: Regulations that are not conducive to digitalisation will need a re-think. We would welcome a situation where the regulator will find ways of enabling usage of technology for the betterment of healthcare. Imagine a surgeon using Google Glass to conduct laparoscopic surgery – will it not improve the quality of care?

**Benefits of adoption**

• **Improved access to care:**

Most countries do not have a decent doctor to population ratio. Digitalisation can help overcome this hindrance and provide adequate healthcare to the populace. Every PHC can be handed a tablet that will enable connectivity to the district hospital, or even connect the patient to the specialists at urban centers.

• **Moving ahead with technology:**

Technology can be leveraged for diet/nutrition advisory, prevention, and interventions in chronic disease monitoring, sending prescription reminders and alerts, etc. Patients can self-diagnose minor health ailments at home, get in touch with their care providers via call centers managed by nursing professionals and use video conferencing solutions like telemedicine to virtually consult with their physicians using the Internet. Just like the retail sector, here too, the consumer will adapt to technology faster than the care giver. The value

of an e-visit has long been acknowledged and needs to be explored more.

• **Improved productivity:**

Digital healthcare will improve productivity for patients as well as physicians. For the patients, it will eliminate the time lost in transit for a physician to be available, as physicians will be available online either from work or from home. People can also connect with doctors from kiosks/ smartphone apps to send their medical test readings. Doctors will have better and easy access to their patient records and can keep track of their conditions more easily. Hospitalised patients who require close attention can be put on constant non-invasive monitoring. This will not only improve quality of care, but also replace the process of having a nurse coming in at regular intervals to check the patient's vital signs.

This will also have other benefits like:

- Active involvement of patients in their care cycle
- Earlier detection leading to improved wellness
- Proactive engagement by the care giver, moving the focus from treatment to prevention and regular health assessment
- Device integration with population health databases enabling treatment efficiencies, new trends and analytics leading to personalised medicine
- Optimisation of scarcity with care givers
- Focus on wellness
- Collaborative engagement with the 'consumer' instead of 'patient'

- Reduction in the cost of treatment

**Recommendations**

- Establish a clear business strategy for digital transformation. This business strategy should not be limited to marketing and administrative improvements only, but rather consider Information Technology as the core of healthcare delivery.
- Align the IT investments to the business strategy.
- Create a roadmap for implementation.
- Review the current IT staff and invest in people who can think and implement the future plans.
- Plan a change management strategy to eliminate adoption hurdles.
- Experiment on pilots and keep refining.
- Share best practices in the industry.

Technology is likely to get cheaper, faster, and intuitive. Consumers are now adopting smart phones and tablets and prefer to engage with these devices more. Today, devices like air conditioners, lights, glucometers, weighing machines, renal devices, etc. can facilitate electronic sharing. Traditional models are becoming redundant with newer companies making digitalisation their core strategy. Healthcare will benefit from this change by improving quality, consumer engagement, focusing on prevention than on treatment, and wellness education.

This change is imminent – is your business strategy in place to adapt to this change? **HBI**