

# Scaling up



intelligent applications in Healthcare enterprises





#### Summary

The Healthcare industry, broadly, comprises of companies, organizations, and agencies that offer medical services of various kinds. This includes manufacturing of and access to drugs, medical equipment, and other support services such as medical insurance. Healthcare service providers also play a critical role in providing 360-degree support which includes diagnosis, treatment, and recovery along with post-recovery care which essentially entails nursing the patient back to health. Additionally, healthcare also comprises a host of preventive, remedial, and therapeutic services. One of the largest industries in today's times, and especially in a post-pandemic world, the healthcare sector is expected to continue booming. However, this growth is subject to many factors, key among which are smart data management, integration of technology, and tech-innovation. It is also important that the industry develops a patient-centered approach, without which it can neither deliver nor thrive. For the healthcare ecosystem to grow, it is important that key technological advancements happen. This includes massive investments in important fields like cognitive computing, and big data and creating a 100% digitized healthcare system that will be better equipped to provide improved care, diagnostics, and reduction of overall medical expenses.

### Why healthcare technology has become crucial:

Like in all aspects of our lives, technology has made its strong presence felt in healthcare. The Covid-19 pandemic has fast-tracked the convergence of 21st-century technology and healthcare. While the circumstances may have played their part in compelling the infusion of technology in areas hitherto considered not-ready, the outcome has clearly paved the way for more seamless and customer-friendly health systems and experiences. A joint study conducted by the Deloitte Center for Health Solutions and the Scottsdale Institute resulted in a multipronged understanding of the digital transformation journey of the global medical systems. Upon interviewing tech executives of 25 top-notch health systems, 3 key findings were listed.

#### The role of tech in improving customer relations :

92% of the people who took the survey said that they hoped health tech would bring about improved patient experiences, with a further improved integration between the two fields. A more customer-centric approach will also improve client trust and loyalty, they said. Using Digitech to introduce newer forms of patient care and care delivery would be another positive result, boosting patient and healthcare provider relationships in manifold ways.





### Large investments are required to propel tech advancements in healthcare, in addition to talent and big data :

Participants and panelists alike shared how a lot of thrust needed to be placed on both the quality and quantity of talent, in order to achieve the planned digital transformation within the sector. 33% of the survey respondents said that maximum investment should go to hiring the best talent, over the next 3 years. Besides hiring, big data and setting the right targets and KPIs were the other two top priorities, shared by the respondents. Despite budget constraints, they also predicted continued large investments in digital transformation initiatives in the IT field.

#### A strong executive is looked at as key to the digital transformation journey :

Survey participants accredited leadership (80%) and operations management (68%) to be the key propellers of digital transformation in healthcare. Additionally, they mentioned culture, communication, ownership, and transparency to be key barriers



"A patient's journey is not just in the hospital. There is a 'before' and an 'after' (or a 'not at all') and what we need to do is be able to stitch that together, making sure we are caring and understanding the context and then where we can leverage those digital tools to be there for them."

Chief digital officer, large regional health system

### 2 Al and healthcare: The big wave of digital transformation

A report on AI and robotics in healthcare aptly showcases how the narrative of big data transforming the global healthcare system is no longer science fiction, but a living tale. As per the report, some of the ways in which AI has increasingly become a part of our healthcare system are as under:

#### **Staying Healthy :**

With the advent of IoMT (Internet of Medical Things), people have more access to applications right at their fingertips, leaving them more in control of their health and less in constant need of a doctor. A large part of these are also health apps that encourage a healthier lifestyle and preventive care. There are apps, for e.g., those enable users to get improved feedback, guidance, and understanding of their own health.





#### **On-time Detection :**

One of the report's highlights includes the false detection of terminal diseases. As per the American Cancer Society, a large number of mammograms yield false results, resulting in 1 of 2 healthy women being told that they have cancer. The use of wearable devices and other health trackers, for example, also enables medical professionals to better track and diagnose illnesses, especially at the early stages.

#### **Diagnosis and Decision Making :**

Several IoMT offshoots such as Google's DeepMind Health and IBM's Watson for Health are providing access to healthcare-related data to large organizations to study more medical information, symptoms, responses, and potential treatments. Through the alignment of big health data, timely decisions, and predictive analysis, timely decisions can be taken to protect patients in a better manner. Pattern recognition and regular reminders for health tests are some ways in which Al can be seen to take a stronger hold on healthcare.

#### **Treatment :**

Besides providing access to a well-integrated medical database, AI can play a key role in providing disease management, stronger care plans, and introducing cost-effective long term treatment plans. Robots performing normal to advanced human functions in laboratories and surgeries can also be deemed a possibility, in the coming years.

#### **Elderly Care :**

With longevity on a constant high, geriatric patients suffer from varied illnesses such as depression, loneliness, heart failure, arthritis, etc. It is predicted that by the year 2030, 2 out of every 5 people in most countries will be above the age of 65. Adopting human-centered design and AI-based technologies can improve the caregiving of the elderly. Robots can be used to revolutionize end-of-life care through social interactions to potentially reduce the need for hospitalization, dementia, and old age homes.

#### **Research and Training :**



As per the California Biomedical Research Association, it takes an average of 12 years and ~USD 259 for a drug to travel from the lab to the patient. By using Al to streamline drug discovery and drug repurposing, both, the associated time and cost used to manufacture new drugs can be cut down drastically. Similarly, adopting Al will pave way for more naturalistic stimulations that computer-driven algorithms fail to deliver in training. The emergence of natural speech and Al's ability to draw from a large database of scenarios changes the way training is delivered in ways manifold.



## **3** The Future of Healthcare organizations and enterprises (incl. Hospitals, etc.)

The process of embedding intelligent, efficient, and effective AI in Healthcare holds a different meaning to every health system, every customer, and patient. Most people working in this field agree with the fact that it is more than making the journey from paper to digital.

To scale up intelligent applications in healthcare, it is imperative that this digital transformation and transition process meets the key needs of the consumers which primarily entail accurate diagnosis, right treatment, proper care, and improved process. A newly transformed global healthcare system will comprise robust processes and increased outreach, which will involve new systems, good talent, and a significant amount of time. While this can take time, alignment between the digital and medical fields can go a long way in ensuring alignment of end goals and values.

#### How is Mindfire equipped to foster and complement this change?

Since its inception in 1999, Mindfire Solutions has successfully executed 1000+ projects in 15+ countries across the Americas, Europe and Asia-Pacific. Some of Mindfire's prominent clients include Aviva, GE, SAP and Thomson Reuters. Simultaneously, the organization has forged partnerships with global technology players like Adobe, GCP, AWS, Apple and Microsoft - thereby enabling it to continue to drive innovation and growth

Within the space of Healthcare IT, we have, over the last 15+ years, built custom solutions to address various software requirements of all the primary stakeholders in the industry- Patients, Payers and Providers. Our clients are predominantly from North America.

Offering a comprehensive range of services across web and mobile, we have been a trusted One-stop technology partner to them. With us looking after their end-to-end software needs, our clients get the freedom to focus all their energies on their core business activities.



We have worked closely with many start-ups in this industry as well. The exposure has resulted in our gaining exposure on many innovative and path-breaking ideas. The experience of building custom solutions for their implementation has pushed us to develop several tech capabilities in quick time, besides also gaining significant understanding of the domain. All this has helped us go several notches up as a tech provider. We know it takes to deliver on such highly demanding and intensive assignments.





#### **Conclusion :**

With the pandemic debilitating the entire world, technological advancement has accelerated in healthcare. It has now become more convenient and cost effective to avail medical services outside the traditional four walls of a hospital or clinic, making healthcare a less intimidating aspect of life

Digital health interventions like telehealth, remote patient monitoring and wearable technology have exponentially grown in popularity during the pandemic, making remote patient monitoring more widely accepted and effective. What Covid 19 managed to do in 2 years, would have probably taken the healthcare industry another decade to achieve.

Health systems are cognizant of the fact that digital transformation is imperative to improving healthcare for a population that is growing in billions. Besides rapid investments in technology, changes in organization culture, mindset and a strong patient-centric structural modification can result in a global healthcare system change.

The six key principles the leading healthcare organizations are embracing include:

- Creating a strong business strategy in alignment to digital leadership
- Extensively building a culture for digital across companies
- Invest in the right kind of talent
- Integrate cybersecurity at every stage of digital implementation
- Manage ever-evolving technologies,
- Create and map progress based on clear targets and milestones

Mindfire Solutions understands that adoption of intelligent healthcare applications will usher a wave of accessible and affordable care that is higher in quality. With varied options of preferred healthcare providers, patients can further connect with their choice of care with more convenience. Digital transformation is a much required intervention that is not only needed to streamline global healthcare operations but also implement systemic healthcare strategies for a world that is growing in complexity.



