

# From biotech and smart medicine to VR, AR, smart cities, digital twins and robotics, everything has contributed to the rise in digital health

**Amjad Jabbar**, Vice President-Digital Health, QuEST Global details how the pandemic has turned out to be the biggest catalyst required to bring about a huge change in digital health

## The rise of digital health

The process of technology-driven change has been rerouted this year, due to the ongoing pandemic. While the biggest drivers of change are Artificial Intelligence (AI) and the internet of things (IoT), their effects were felt on various additional industries than what one may have anticipated. One such area is healthcare. The focus of advanced research in medicine, vaccines, social welfare, and environmental health has shifted to addressing the ongoing crisis and all the emerging technologies have played a major role. From biotechnology and smart medicine to virtual reality, augmented reality, smart cities, digital twins, and robotics, everything has contributed to the rise in digital health.



## A new period post pandemic

In India, the healthcare sector has grown tremendously in the last 10 years and has become one of the largest sectors in the country, both in terms of revenue and employment. Post the pandemic, the biggest positive outcome out of this has been the rapid evolution of digital health. Earlier, data in cloud was taboo, AI's proof was questioned, and technology acceleration was considered unsafe. However, since the onset of the pandemic, this has changed considerably, and the first impact was seen through the overnight shift of point of primary care delivery from hospitals and clinics to home. Even virtual consultations and home-based monitoring were enabled rapidly with

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wearable devices being considered as miniaturised monitors.

COVID-19 alone has urged governments around the world to fund disease research, rapid diagnostic methods, understanding transmission and contact tracing, and the development of genomics-based vaccines. The learnings over the last 18 months have accelerated the drug development process

by decades.

## Accelerating the industry change

Today, the medical industry is entering an era of accelerating digital innovation as patients seek on-demand medical care because of their busy schedules. Not to mention, people have become much more mobile over the last decade, driving the growth of on-demand healthcare serv-

ices in tier 1 and tier 2 cities. The pandemic also showed that people are willing to share their personal data when their health benefits are clearly communicated. This has led to an increased reliance on AI-driven prediction tools to forecast where resources can be used most efficiently and make data licensing contractual. One of the greatest benefits of AI is its capability to transform medical devices by improving their performance. This trend will continue.

The sudden alignment of stars in the world of digital health has also revolutionised the investment in health technology. With the \$1 trillion invested in COVID-19's research, investment in digital health in the first half of 2021 ended with \$14.7 billion in several digital health transactions in the United States (*Ref: Rock Health Report*).

## The age of cyber crime

With all the positive developments in place, there also exist security challenges in this new era of cybersecurity. The healthcare system is a major target for national threats. The medical industry spent \$18 billion on cybersecurity, up 15 per cent year-over-year, according to a Rock Health report. More than the billions of dollars spent on cybersecurity, healthcare systems have faced threats by ransomware hackers exposing patient data and legal disruptions caused by data breaches. The money earned by ransomware companies is reinvested in sophisticated platforms that cause worse attacks. Health systems also need to fund

research carried out for protective measures taken for cybersecurity. This creates a grave situation in which the medical, as well as patients and the general public, pay both hackers and protectors.

## Push by the Indian government

The Indian healthcare system is highly diversified, offering many opportunities in all segments, including providers, payers, and healthcare technology companies. The country has also become one of the major destinations for high-quality diagnostic services, with huge investments in advanced diagnostic facilities reaching more segments of the population. From a bio-pharma perspective, India is a world leader in vaccine manufacturing and pharmaceutical companies here have supplied more than 50 per cent of the global demand for different vaccine needs to achieve global immunisation.

## Digital health is the future

The pandemic has turned out to be the biggest catalyst required to bring about a huge change in digital health. This change is progressive and is here to stay. One keyword is "resilience," as more and more resources are being spent developing technologies to avoid the devastating effects of pandemics and epidemics on lives and the economy. With the help of digital health, providing an affordable, accessible, and accountable health system for a healthier population around the world has become a possibility.