

## Robotics in Indian Healthcare: Are robot care-takers the next big thing?

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**T**he Indian healthcare sector in recent years has grown exponentially owing to the increased investment, both in public as well as private sectors. According to a report by NITI Aayog, the Indian government will increase public expenditure on healthcare from 1.1% to 2.5% GDP in the next four years and subsequently to 5% in the following five years.

At present, the rising incidences of lifestyle diseases and growing demand for affordable healthcare coupled with the increased role of government in healthcare investment space and emergence of technologies such as artificial learning (AI), machine learning (ML) and robotics are the major driving factors in the Indian healthcare industry.

The affordability and accessibility of technology is reverberating the healthcare sector in India. AI & ML is becoming increasingly sophisticated at doing what humans do, but more efficiently, quickly and at a lower cost. India produces only about 50,000 doctors every year – not nearly enough to get to minimum standards. To get to the WHO recommended a minimum of a doctor-patient ratio of 1:1000, India will need 2.3 million doctors by 2030 and the nurse: patient ratio is 1:483, implying a shortage of around two million nurses. The intervention of AI is not only a novelty but also prove to be a vital part of the sector. A discussion paper floated by the Indian government's Niti Aayog places

healthcare among one of the focus areas for AI intervention.

According to the Global Health and Aging report presented by the World Health Organization (WHO), “The number of people aged 65 or older is projected to grow to nearly 1.5 billion in 2050, with most of the increase in developing countries.” Additionally, by 2050, the number of people aged 65 years or above is expected to be significantly higher than the number of children younger than 5 years of age. Many people develop disabilities related to the wear and tear of ageing or the onset of other chronic diseases which requires 24x7 continuous care and monitoring, attention, love and affection to address their physical limitations and to get rid of their boredom and frustrations.

### **Why is it even more important from the India context?**

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**In India, we don't have a shortage of health issues. Millions of people do not have access to basic health care /medical care even**

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**The aging population is not considered as an issue in India when it comes to the ratio between old and young. But is an issue when we think about it along with our increasing population. Additionally, youth is either finding it difficult to get time or they are disinterested in general caregiving. The increasing number of old age homes are proof for this**

Same time, technology like robotics has grown to a level of maturity that it is able to come up with practical solutions to these problems.

Considering the above two aspects, robotic health care can come to rescue for county like us. However, the affordability and lack of indigenous solutions are the two short-term aspects working against it. In the coming years, we are certainly going to see a robotics play a key role in the global as well as Indian healthcare market. We already have robots that are capable of 24x7 monitoring, sending emergency alerts to human caretakers and automatic food & drink dispensing robots. Other than that, these robots can be used for dispensing medications, sterilizing equipment and moving patients.

In a developing country like India, while we are witnessing increase instances of robots being used for laparoscopic surgery, automated pharma, etc. robot nurses as a concept still needs a familiarization. But with a growing aging population and medical staffing issues, it will be a necessity soon and the trend is sure to catch up.



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