

# AI in Healthcare: A Trillion-Dollar Opportunity for India

Artificial Intelligence (AI) is prevalent in the business world and is now applied in healthcare. The rise of data implies the increasing use of Artificial Intelligence (AI) for health care.

The main area where Artificial Intelligence is being applied is early disease diagnosis, drug design process, drug trials, diabetic retinopathy, cancer treatments, cardiovascular disease, and eye care.

Artificial intelligence for healthcare expenditure in India is expected to reach \$11.78 billion by 2025. And also estimated to add \$1 trillion to India's economy by 2035. The huge growth in investment, particularly in AI, is being done for many reasons.

India has just 64 doctors available per 100,000 people compared to the global standard of 150 doctors per 100,000 people. Primary healthcare in India lacks infrastructure in rural areas.

This translates to a lack of high-quality diagnostic services in rural India which is home to more than 60% of the population. Even in Urban areas, the impact of technology has been modest.

Online doctor consultations and chatbots for healthcare systems using artificial intelligence received a big hike during the COVID – 19 but the impact has not been as transformational as expected.

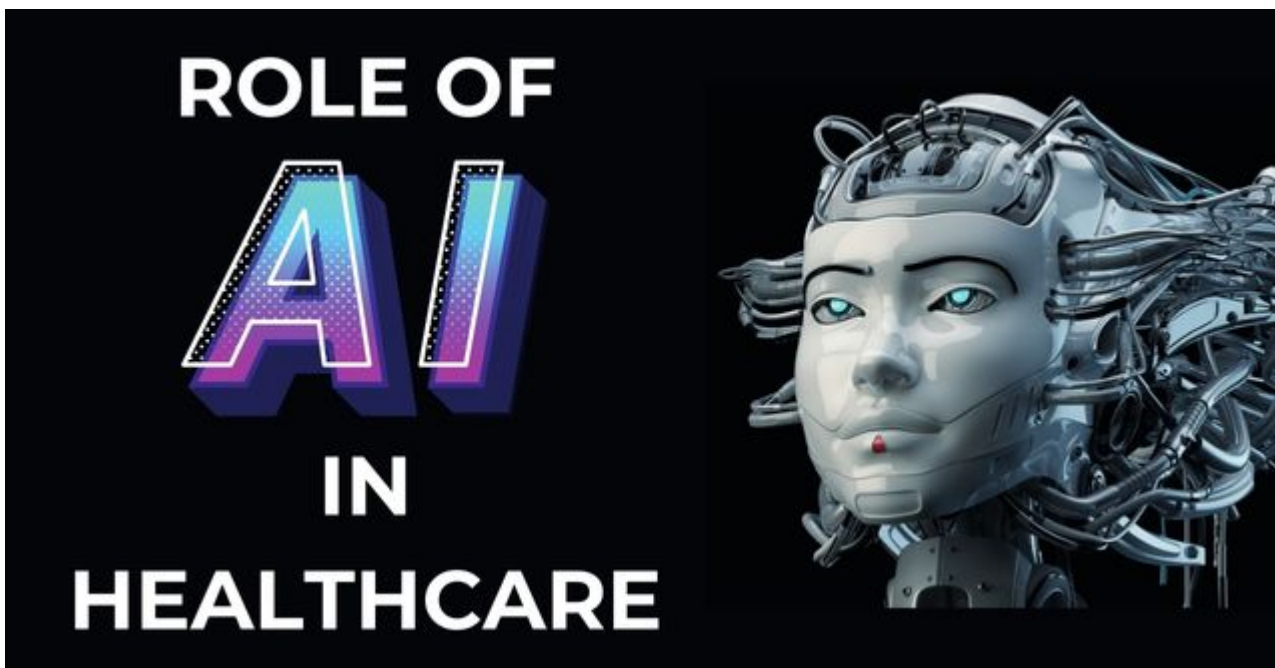
Integration of AI in healthcare is not a one-day dream. It requires the government to introduce AI Courses and AI-based curricula in schools and colleges, especially medical and

health science colleges.

Leveraging predictive analysis using Artificial Intelligence (AI) for early detection or diagnosis can become an asset in the healthcare industry in India, especially in rural India where there is a lack of basic infrastructure and even healthcare experts.

AI-based technologies can help bridge the gap between supply and demand of healthcare industry growth in India which is expected to become a \$372 billion industry this year.

## **The Role of Artificial Intelligence (AI) in Healthcare**



AI expenditure in India increased by over 109% since 2018, making it a \$665 million industry. It is estimated to reach \$11.78 billion by 2025, adding \$1 trillion dollar to India's economy by 2035. AI is already being integrated into diagnosis and prior detection methods.

NITI Aayog, a public think tank, policy, and program framework for the Indian government has been testing the application and aim here is to integrate AI-based technologies with portable

screening devices that can accelerate eye screening and early diagnosis, especially in rural and remote areas growth of the healthcare industry in India is increasing.

AI-based technologies are being tested for cancer research. AI-based tools can use high-quality de-identified pictures to detect biomarkers. Recently the companies that are using, artificial intelligence in India are Tata Medical Center and the Indian Institute of Technology launched India's first de-identified cancer image bank: the Comprehensive Archive of Imaging.

Artificial intelligence in the healthcare industry can use public health data to identify risk factors associated with cardiovascular disease. Microsoft's AI Network for Healthcare and Apollo Hospitals are developing a machine learning model to predict the potential risk of heart attacks using clinical and lab data from around 400,000 patients.

The AI solution can identify new risk factors and gives a heart risk score to patients without the need for a detailed health check-up.

Predictive analysis uses of AI in healthcare are also used in the drug design process. AI has the potential to accelerate the hit-to-lead stage of early drug discovery and gives accurate results of the drug.

## **Challenges while integrating AI into Healthcare**

The primary requirement to integrate AI in healthcare is public health data, which is also one of the potential risk factors. AI-based tools and technologies require massive amounts of patient data. Fragmented or inaccurate data can increase the risk of artificial intelligence in healthcare inaccurate decisions like inappropriate drug prescriptions or

disease detection. Thus, patients must realize how their data is being used to train the AI models and provide accurate data.

The healthcare industry should also realise that the integration of AI in healthcare is just not the end. A high level of automation based on AI could compromise physicians' ability to detect mistakes in any stage of AI integration and lead to an overreliance on AI-based tools.

Artificial intelligence companies in India should support healthcare decision-making, not be used to automate decision-making. AI-based tools should never be replaced with primary healthcare, but should instead help in giving advanced tools and infrastructure to rural populations.

## **Major players in the healthcare industry in India**

- Apollo Hospitals Enterprises Ltd.
- Aster DM Healthcare Ltd.
- Dr. Lal PathLabs Ltd.
- Fortis Healthcare Ltd.
- Healthcare Global Enterprises Ltd. ( HCG)
- Indraprastha Medical Corporation Ltd. ( Indraprastha Apollo Hospital, Delhi)
- Narayana Hrudayalaya Ltd.
- Piramal Enterprises Ltd.

# **India's way forward AI**

AI maturity in the healthcare AI market requires critical investments in the capacity of the workforce, data and infrastructure, governance and regulatory mechanisms, design and processes, partnerships and stakeholders as well as innovative business models.

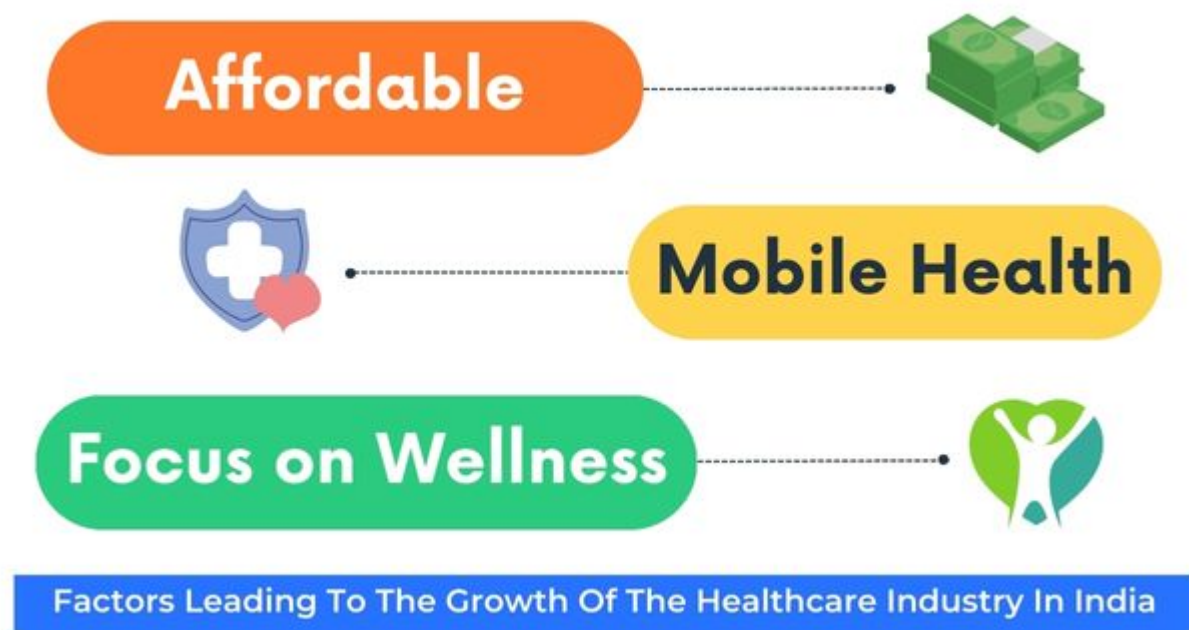
Integrating AI into healthcare systems also requires an understanding of artificial intelligence India curricula for medical and public health students, both academic and practical.

The Indian government will need to make appropriate investments in data infrastructure, such as interoperability, unified EMR and data stewardship. This is very important to build trust and long-term integration of AI into India's healthcare system.

The Indian government must also invest in and build public-private partnerships across the healthcare industry to facilitate coordination between academia, government, industry, NGOs and organizations. They should scale governance and regulatory mechanisms to offer appropriate oversight for privacy, fairness and transparency.

India is a founding member of the Global Partnership on AI alliance and has thus far adopted a measured approach to the integration of AI, in keeping with ethical and responsible standards of the country. These principles must be applied in practice as the technology scales on a higher level.

## **Factors leading to the growth of the healthcare industry in India**



## 1) Affordable

All positive factors boosting the Indian Healthcare industry begin with an increase in government expenditure. In the Union Budget of 2020-21, the government launched an encouraging allocation of USD 9.87 billion towards the healthcare sector while ensuring an increase in healthcare spending to 3% of the GDP by 2022.

Many Indian hospitals and diagnostic centres have been attracting Foreign Direct Investment in the past few years. The medical space is filled with many opportunities for people, in urban and rural areas. Such things have boosted competition and raised industry standards significantly.

Medical tourism has been and will keep the leading segment owing to advanced techniques and well-trained medical professionals available in India.

## 2) Mobile Health

Mobile Health or MHealth application of artificial intelligence in healthcare is a part of the remote healthcare service sector that caters to people in the comfort of their

homes. It also includes tools that can accurately diagnose, track health, and educate health workers and people in general.

MHealth is especially relevant to these times and many companies have already jumped on the MHealth bandwagon, including Consumer Tech and Pharma companies. It helps many companies and medical practitioners to be reached by far-off consumers that reside away from quality hospitals and medical facilities.

Technology fuels the MHealth industry with IoT-backed devices, Remote Patient Monitoring (RPM) and Disease Management applications for patients with long-term conditions such as diabetes, high cholesterol, obesity and more.

### **3) Focus on Wellness**

The lockdown has caused stress levels to rise and in turn affect people's health for the last 2 years.

This has brought all areas of wellness into focus including emotional, occupational, environmental and social wellness. Companies catering to matters such as post-traumatic stress disorder, insomnia, anxiety and related psychological problems have begun creating apps, networks and modalities to reach out to a wider number of people.

People witness a rise in fitness experts, nutritionists and alternative therapy practitioners such as yoga and meditation therapists, making the wellness sector a contributor to the Indian Healthcare Industry.

Hence, These are three primary areas of improvement and growth expected from the healthcare sector. The massive scope of healthcare and let multiple players with unique specializations operate within a booming and vital sector, fore-casted to create ripples, globally.

# Summary

India's adoption of Artificial intelligence into healthcare can enable it to bridge the imbalance between the increasing rural population and the country's lack of basic healthcare infrastructure. India can become a front-runner among emerging AI markets and meet its sustainable development goals soon.

## FAQ's on AI in Healthcare:

Must read article:

- [How Artificial Intelligence\(AI\) Applications are Involved in Different sectors?](#)
- [Everything You Need To Know About ChatGPT](#)
- [Difference Between Machine Learning and Deep Learning](#)