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Artificial Intelligence is driving the transformation in Healthcare

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The future of healthcare in India will be determined by Artificial intelligence (AI). AI has the potential to enhance the capacity to process & store large amounts of data in an intelligent manner and translate that information into functional tools. To make sense of unstructured data, AI uses complex computer algorithms & puts a wealth of information at the doctor's fingertips. As per researchers, day by day with emerging technologies, artificial intelligence infuses the modern healthcare system & generates new insights. Let us look at its advantages, programs, and implementation hints.

Three factors drive healthcare in India

- Access (to care, clinical data, doctors, equipment, medicines and devices)
- Affordability (Manage costs for procedures, after care, chronic care management)
- Quality (Zero errors, Outcome based care)

Access: In 2015, near 44,000 oncology research papers were published globally which mounts down to almost 122 new papers per day. Not even the best of human mind can tackle this tsunami of data let alone utilization of this for providing more treatment that is efficient to the patients. A technology, which can help the doctors to utilize this vast amount of data for the

benefit of the patients, could be a game changer.

In India, Manipal Hospitals, India's third largest hospital chain, has adopted IBM Watson for Oncology to help physicians identify options for individualized, evidence-based cancer care across India. IBM Watson for Oncology is a comprehensive technology platform which runs on cloud and applies natural language processing and machine learning to help oncologists and their care teams to address cancer treatment and everything related to it.

According to the World Health Organization, cancer of all types claims approximately 680,000 lives each year in India, making it the second leading cause of death in the country after heart diseases. There are 1 million new cancer cases diagnosed every year in India, and this is expected to rise 5-fold by 2020. India has only one oncologist for 1,600 patients, compared to one for 100 patients in the US, and hence faces an acute shortage of oncologists. Assistance from an intelligent technology platform like Watson could cut down the time to treat cancer patients and also help physicians to stay up to date about best practices in treatment and care management.

Affordability: With the emerging technologies such as artificial intelligence, the patient can get medical assistance without visiting hospitals/clinics which results in cost optimization. AI assistants provide online care & assist patients to add their data more frequently via online medical records etc. This area can revitalize previous attempts like Telemedicine that allows specialists to help their patients that are bed ridden or unable to commute to the hospitals. Using a remote presence robot-doctors can engage with their staff & patients in hospitals/clinics & assist or clear their queries.

Quality: Out of these three, I believe quality of care is the key, which will require reducing human errors. Today a doctor is able to give around 5-7 minutes to a patient in the Out Patient Department (OPD). Due to this time crunch, human error might threaten the safety of the patient. To overcome this AI as a super human checker will assist doctors by eliminating human error & relieve them of monotonous & time-consuming tasks. Health Insurance is another area that can benefit immensely from the application of AI to data. A good example in this space is Medi Assist that works on making health insurance benefits hassle-free, accessible and affordable to every Indian citizen. Operating in a highly regulated industry Medi Assist has to comply with healthcare regulations, Insurance regulations in addition to corporate policies. Despite this Medi Assist has been on the fore front of digital, adopting analytics to improve the standards of care and get better clinical outcomes.

Most healthcare organizations are now using EMR reporting and data analytics at the heart of informed decision making. So decisions are more data driven and not left to intuition or the experience of the individual. At Medi Assist there are two aspects to how they approach analytics. On one hand they ensure that the systems constantly evolves to provide deeper insights to insurance partners and corporate decision makers. On the other hand there is increased focus to simplify consumption and analysis of big data.

But there are challenges

While AI can enhance productivity, but it might be disruptive to teams or health care providers. As an instrument frame AI, along with emerging technologies like Augmented Reality (AR) is used for training, experience and judgement. Many hospitals are spending the time and effort to explain Artificial Intelligence to doctors, patients and health care providers.

Availability of data is one of the showstoppers. We simply do not have enough data to make AI models successful. For increased interoperability between systems, advocate end users & EMR vendors because the lack of EMR integration knowledge will become a barrier to the effective use of AI. Finally, we do not have a mechanism for effective collaboration between hospitals, government, medical colleges, Research centres and others.

Conclusion

The question I get at every forum is that "Would AI replace doctors?" Well the answer simply is no. There is very little we know about the human body. There are areas like neurology and psychiatry that we know almost nothing about. While AI might take up areas that we have knowledge about, there is very little that AI can do in areas where there is no data. That area that has to be explored by the brave men and women work who work in healthcare. So, there is a lot to be done but it essentially starts with collecting information and documenting it. The future of healthcare in India is bright, but it depends on us leveraging all the technology available to us and bringing businesses together to integrate ideas and technologies to create the future.

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