



THE ADOPTION OF NEW AGE TECHNOLOGIES LIKE INTERNET OF THINGS HAS GREATLY PERSONALIZED THE LARGER PART OF PATIENT CARE AND MONITORING OF TREATMENT REGIMEN

Indian population but mostly goes unnoticed. The sleep tracking on your fitness trackers can capture the early signs of sleep apnea and alert you. Similarly, erratic heartbeats, breathing patterns, etc. can all contribute to providing data to detect early signs of many lifestyle related ailments.

Structured data for health records and medical history do not exist on a large scale today. Labeled data does not exist for imaging data, diagnostic reports and medical literature. "So the challenge is creating a data funnel (that collects labeled data in structure that we can consume) for health records and medical history and employing the right machine learning techniques for the rest, to extract relevant information from unstructured content (images, articles)," says Ajit Narayanan, CTO, mfine.

Ethnography is a model of medicine currently prevailing in Europe, which is used to determine the patient's journey to the point of treatment and further. "Many of the healthcare consulting companies are using mobile applications for this model. The data collected from patients is quantified and analyzed, which enables companies to evaluate the patient's journey with the prescribed course of medicine," says Ayush Mishra, Co-Founder, Tattvan E-Clinic.

Machine learning and AI algorithms can then run over these structured data which helps in reasoning and inferences. Using this information, it is possible not only to make the diagnosis process simpler and error free for doctors but also start to make preventive suggestions.

"The newer algorithm based analytics go into details of analysis genetic structures and analyzing behavior of each gene to different medications, treatment and thereby helping us to understand how a patient will behave for a specific treatment modality and in turn helps us to pick right treatment plan which gives best outcomes for them," says Dr. Chandrika Kambam, Vice President- Clinical Services, Columbia Asia Hospital India.

The adoption of new-age technologies like Internet of Things (IoT) has greatly personalized the larger part of patient care and monitoring of treatment regimen. "The large-scale adoption of technological tools can help in scheduling patient visits to hospitals, creating tailored communications for managing medicine schedules and exercise routines and maintaining personal

health databases of patients which can help in managing chronic health conditions. The broader aim of healthcare management systems is to ensure optimum health and reduced morbidity for patients," says Nivesh Khandelwal, Founder and CEO, LetsMD.

Data analytics is playing a vital role in the progress of healthcare practices. It has swiftly grown as a field and has recently been implemented to support the process of care delivery, diagnosis and disease assessment.

"The trend of rapid digitization has stemmed through the evolution of healthcare and enhanced the potential for quality healthcare delivery at a very reduced cost," says Dr. GSK Velu, Chairman & Managing Director of the Trivitron Healthcare Group.

This will play a major role in detection of diseases in the early stages, managing specific individual and population's health; detect healthcare frauds quickly and effectively.

DATA CHECKLIST

Health Records

Chief complaints, diagnosis, treatment plans.

Medical history

Previous illnesses, surgical history, lifestyle.

Imaging Data

X-Rays, Ultrasound, MRI, CAT Scans.

Diagnostic reports

What parameters are normal, off the charts.

Medical Literature

Wealth of data from research.