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Data analytics in health: Deakin University, Max Health partner to utilize patient data

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In a country like India where priorities are more often anything but health, the loss of data on patients and their disease history, surely comes off as a no big deal. But only few know that the use of such data can open new avenues for preventive medicine in future. So are we doing anything about that?

At least on private front, the movement has started. Deakin University, Australia and Max Healthcare in a first of its kind venture, are bringing 'big data' to work for medicine with its huge records of patient history - with data on admissions, diagnosis and outcomes, spanning a huge inventory of images. Besides that the computerized records and registries and the consequent untapped potential to identify critical safety issues, as well as service and clinical efficiencies.

Dr Sandeep Budhiraja, clinical director and director, Institute of Internal Medicine, told BioSpectrum, "Given the kind of huge gaps in patient data handling and effective usage, this project is definitely a right step forward. This association will be a landmark project and take healthcare management to a different level. We look forward to working with Deakin in order to advance research on data analytics for health data."

As part of the agreement, Max Healthcare and Deakin University will jointly address this pressing need by leveraging state-of-art and verified techniques in data analytics to support clinical decisions. The outcomes are critically important from economic, patient safety and systems perspectives. The immediate project will focus on heart disease, specifically on patients with index admission [symptoms] of Acute Myocardial Infarction (AMI) or Stroke. The project is being run on experimental basis for next six months and after review on its implementation, will be taken forward on a bigger scale.

According to, Prof Svetha Venkatesh, director, Pattern Recognition and Data Analytics, Deakin University said, "The primary objective of the project will be to search through the existing data sets for hidden patterns of both the predictable and preventable events in managing the healthcare of individuals. This will be done by building sophisticated predictive models, utilising machine learning techniques derived from anonymised hospital patient records from diverse hospital data sources. This paradigm is novel, since it is capable of both hypothesis generation and testing, whilst being agnostic and unbiased to

prior assumptions."

A joint team will analyse the data, extract relevant features and build a validated machine learning model for specific prediction task. The resultant model will be jointly held and shared by the teams at Deakin and Max healthcare as a prototype program. Once successful, the model would be subsequently piloted at Max Healthcare on prospective cases over a period of one year and the predictive accuracy would be calculated and shared with Deakin team.