Healthcare Analytics

Healthcare analytics is defined as quantitative and qualitative processes used to enhance healthcare productivity through desktop, server, or cloud-based applications that store and categorize data to draw conclusions through the patterns that emerge.

The data analyzed can be historical, old records already in the company, or new information processed from internal or external sources. Using data analysis within the healthcare industry can increase revenue, improve efficiency within the business, optimize customer service, and plan to outpace competitors in the marketplace.

A healthcare analytics dashboard is simply an analytical tool that displays any operational data. It's an easy way to display data from multiple data sets. But you must standardize the data in a way that makes sense first.

Every hospital has its own set of records for each of its patients. These records have the complete information a patient has within a hospital. Conveniently, if you're an executive working with multiple hospitals under one company, then those records will be in the same format. This makes it easy to store and easy to understand.

These kinds of patient records are important because they give healthcare data analytics access to a larger dataset. Depending on analyst goals, we cross-reference the other available data with our own to create a better patient profile.

Healthcare analytics can find patient trends(admit to discharge), budget performance for specific departments, rate of tests, etc. This data can help see how long, historically, patients were admitted to the hospital. Utilizing this data could determine potential important or required improvements in the patient admission to when they get discharged.

The interplay between data analytics and the hospital's admission-to-discharge process is potentially beneficial to the hospital, staff, and patients themselves. By selecting the right KPIs for hospital analytics, we can find what happens in patients staying at the hospital. We can potentially identify what the patient faces the problem at the time of discharge, such as quality of care and number of staff available, and can use this information for the next discharge improvement in creating a process around it. This results in happier patients and healthier patients. By doing this, the whole process can also become cost-effective for them.

The same analysis can help create an admission to discharge pattern as well. Such as what kind of symptoms and what disease patients stayed longer in hospital and what kind of treatment they got. This can help the hospital create an expected chart of a patient's recovery and health. The benefits of analytics in healthcare are in many ways tied to the effectiveness of data analytics dashboards.

If we have bad data for analytics, then the analysis will be bad. So it's always good to start with a good question to have a good dataset that can answer your questions and have a good analysis.

Application of analytics in healthcare

All stakeholders in the healthcare industry benefit from data analytics: patients, physicians/surgeons, hospitals, pharmaceutical companies, insurance companies, and public health professionals.

Patients – more aware of self-health.

In general, with the proliferation of wearables like smartwatches, patients can be more aware and assured of their physical conditions.

A 62-year-old Canadian citizen, Dennis Anselmos, was at work when he started feeling sick and decided not to bother his colleagues, but seeing his Apple Watch revealed that his heart pressure was extremely high and he's suffering a serious heart attack, 911 was called and doctors were able to save his life.

Physicians/Surgeons – increase diagnostic accuracy.

When a patient visits a doctor with chest pain, it is often difficult for the physician to know whether the person needs medical attention or not. Predictive analytics can help them make firm decisions based on the previous records and their analysis. As a result, this fact-based treatment reduces the probability of causing any major side effects.

Hospitals – improve patient care with low mortality rates.

With analytics, they can have better procedures and research over various diseases. Which can help them improve mortality and morbidity rate during the post-op period.

Pharmaceutical Companies – bring new, more effective drugs to market faster.

Predictive modelling can be implemented to test the effectiveness of new drugs in a faster and less expensive manner. This will help them bring the drug to the market more quickly and reduce the overall healthcare costs per patient significantly.

Insurance Companies – reduce the cost of insurance.

Healthcare insurance service providers can implement predictive analytics models to better forecast insurance costs for individuals. Presently, the insurance cost is more a function of a person's age, current medical condition, and the 'plan' they are opting for. With the help of analytics, they can find the future medical expenses of a person and genetic information as well, and they can also make informed decisions about insurance costs.

We encourage you to go and check out any additional information that you can possibly find on the Internet related to the given topic. This way, you will gradually be immersed in the field of Data Analytics.