We look up to the Pharma industry as it works towards improving the quality of patient's life with its innovative therapies and make them live longer and healthier. In the time of the global pandemic, pharma companies have resorted to massive **clinical research** and development to produce an effective vaccine against the deadly coronavirus. They have been under tremendous pressure to develop an effective vaccine in a short span of time. This makes one wonder how evolved are the Pharma companies to deal with every changing healthcare scenario.

Many of the Pharma companies have replaced traditional ways of managing the manufacturing floor and their day-to-day operations. But are they fully equipped for the betterment of their stakeholders and healthcare system? The government, doctors, insurance companies, and patients are the stakeholders of pharma companies. They are knowledgeable and have access to data about healthcare and expect the best from the pharma companies. Few examples can be cited – Doctors expect new products to exceed their performance as compared to existing products. Patients want their opinions to be heard during the developmental stage of new medicine.

Insurance companies want cost-effective products. Regulators have specific guidelines that the pharma companies need to adhere to. So how do pharma companies undergo the pricing and performance pressures and yet be able to deliver quality, cost-effective products?

Data Sources

The first and foremost requirement for any change is information or data. Currently, they have a huge amount of data from various sources. The main sources of data are:

- Research projects

- Clinical trials

- Post-marketing studies

- Electronic health records of patients

- Insurance companies

For pharma companies to evolve data integration and its rightful application is the key to success. They need to do away with the traditional approach and embrace the new business model of how to use the available data to improve the healthcare system.

The importance of Data Integration and its Application

The data available is vast and is mostly in an unstructured format. These data need to be analyzed, compiled, and interpreted in a manner to provide actionable information. Data integration needs to maintain data governance standards, data quality, and security. Once the integration is done correctly, pharma companies can use different data sets multiple times to analyze different goals. Data integration can be performed using algorithms powered by **Artificial intelligence** and Machine learning.

Data integration is essential from a business perspective for pharma companies. The data obtained from patient records can be used to produce cost-effective medicines. The real-time information available can be used to optimize clinical trials. They can also enhance manufacturing efficiencies and provide new formulations easily. The data can be used to create targeted marketing messages for patients. All these give a competitive advantage to the pharma companies.

Data integration is beneficial for all stakeholders as well. Electronic Health records data can be used to enhance patient care. The EHR data can identify new indications for the existing products. Doctors can make calculated decisions and check the viability of new formulations. Insurance companies get cost-effective products. Well analyzed data when efficiently used can identify disease mechanisms and build prognostic models. This accelerates the drug formulation process and ideates preventive approaches.

Challenges of Data Integration

Data integration and its application is a major step towards progress for pharma companies in today's time. However, it is challenging for them. The humongous quantity of data needs an excellent data integration and management platform. The company also needs trained staff to handle high-quality data. Presently most of the data management is done manually by inexperienced staff. The complexity of data integration as well as the security risks are huge when data is collected from various stakeholders.

Conclusion

The pharma companies know the importance of data integration and how it can help them to create a robust healthcare system. Though presently it is marred with a few challenges, with technological collaborations pharma companies will be able to adapt to the new business model. Pharma companies are investing in **Real World Evidences (RWE)** and new technologies to increase workflow efficiencies. With the pharma companies taking a plunge into data integration and adapting digital innovations, the future seems to be promising not just for the pharma companies but also for all the stakeholders of the healthcare system.

Pharma companies and companies dealing with **Life Sciences** and Biotech have huge data collated from various sources. The biggest challenge is the integration of data. The

data is extremely valuable and many companies are yet unable to capitalize on the same due to the lack of a good platform for data restructuring and integration. Aventior offers **Data Restructuring and Informatics Platform (DRIP) solution** to such companies for data management. **Aventior's** DRIP uses proprietary algorithms with machine learning to transform structured and unstructured data into a usable format. To know more about our DRIP solutions and other services, write to us at **info@aventior.com**.