## Data Analytics can alleviate the cost burden researchers and analysts face in vaccine invention

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**In conversation with Geoff Soon, Managing Director, South Asia, Snowflake.**



In Dec 2020, WHO announced 'Digital Health Implementation Approach to Pandemic Management' at the G20 Summit, outlining digital health emergency responses landscape and proposed actions and implementation recommendations. This emphasizes the significance of advanced analytics and AI to enhance speed and accuracy of diagnosis, control costs, and improve the operational performance of hospitals through the optimization of resources. Currently, even the biopharma industry is trying hard to ushering a vaccine through rigorous testing protocols and regulatory approvals. Incorporating advanced data analytics could help accelerate more of these essential healthcare processes.

**Mr. Geoff Soon, Managing Director** at leading Data Cloud, **Snowflake** enables healthcare organizations towards advanced analytics. Snowflake's thriving Data analytics capabilities are improving patient outcomes by delivering quality care and developing next-generation therapies to streamline healthcare inefficiencies across South Asia, including India, ASEAN, Hong Kong, Macau, and Taiwan. In a recent conversation with *Biospectrum Asia* Mr Soon shares more on how data analytics can empower healthcare innovations.

**How can data analytics improve health outcomes for patients, reduce administrative burdens, and support healthcare organizations?**

Today's healthcare providers such as biopharmaceutical companies and medical technology businesses need technology platforms and tools to collect, store, analyze, and share information. This information includes data from electronic health records, administrative and claims, patient registries, and clinical trial statistics. While this explosion of information is prompting a new era in healthcare, transforming clinical diagnostics and the delivery of patient care, many healthcare organizations experience challenges with safeguarding and protecting patient information, as well as interoperability in the exchange of information from multiple sources.

At the same time, organizations are changing their value frameworks to focus on clinical outcomes and treatment efficiency. Data analytics could improve health outcomes for hospitals and patients in the following ways through data interoperability and unites all consumer data from different sources and systems virtually.

a. **Increased care coordination** – Data silos caused by information scattered across different clinic departments, IT infrastructure, and systems can cause serious delays, mistakes, or other problems that can potentially be troublesome for patients. With proper digitization, hospitals can connect all data collections and master every data element in one place. The next step is to facilitate communication and ensure easy information flow within the healthcare organization.
b. **Enhanced customer satisfaction** – Analysis of patient feedback, onsite and in-app behavioral data allows hospitals and clinics to optimize their services. Then, by supplying the information individuals look for, patient satisfaction can be enhanced by enabling them to track and monitor their own health without unnecessary trips to healthcare facilities.
c. **Consistent care delivery** – Hospitals and clinics gain a full overview of the patient's interactions with their services, offers and products by integrating online and offline data. Then, they can apply this information to deliver a smooth experience to their customers.

**How can hospital and research lab teams access diverse sets of data efficiently?**

Through technologies such as the Data Cloud, hospital and research lab teams can access diverse sets of data on the same platform. With secure, seamless, and governed exchange of sensitive data at scale, organizations can easily share data and collaborate with others. Data sharing capabilities of cloud platforms are built on top of secure data sharing technology which allows organizations to give internal and external users access to live, ready-to-query data sets without having to move, copy or transfer data. Companies can also combine public data sets with their own data to gain diversity that enables deeper insights and better data-driven decisions.

**How can data from various sources such as clinical applications and the Internet of Medical Things (IoMT) devices be gathered into a centralised repository?**

COVID-19 has presented healthcare organizations with the challenge of managing and analyzing extremely large data sets. The Data Cloud can integrate structured and semi-structured data from a variety of sources, including online transaction processing (OLTP) databases, clinical applications, and internet of medical things (IoMT) devices, into a centralized repository. From there, data scientists can use automated organization tools to analyze the data more quickly and efficiently. With data integration, healthcare organizations could make data more accessible and valuable for collaboration and reduction of errors.

**What are some tools data scientists can use to analyze data more quickly and efficiently, unlocking much-needed insights to accelerate innovation for new vaccines?**

As the COVID-19 pandemic progresses, a deluge of data is being generated every day and it is impossible for researchers to keep up. Vaccine research takes time and resources and is a risky enterprise that requires large data sets. Globally, billions of dollars have been invested for the purpose of research and the development of vaccines. As one of the organizations that is supporting the funding of companies researching vaccines, the World Health Organisation (WHO) is seeking USD31 billion to combat COVID-19.

Analytics through the Data Cloud could surface trends and actionable insights across a wide range of data sets to alleviate the cost burden researchers and analysts face as they look for clues that will accelerate vaccine development and identify effective treatments. By using a secure platform, data scientists could benefit from automated and self-service services, enabling life science companies to focus on their core business instead of IT management. With near-zero maintenance, such platforms provide a simple-to-use and cost-efficient solution to increase productivity. With multi-cluster and shared data architecture, businesses can scale without downtime or disruption.

**How can healthcare institutions safely compute valuable information to improve the customer experience while protecting confidential patient information at the same time?**

In the life sciences industry, companies must comply with stringent regulations and quality guidelines that regulate practices in various settings to ensure medical products are safe for consumers. Organizations need to use technology and platforms which adhere to these guidelines to help them validate their workloads and meet the industry's standards and best practices.

This includes protecting, exchanging governed and sensitive data with internal and external data consumers with the help of built-in security that supports regulations such as Health Insurance Portability and Accountability Act (HIPAA), Service Organisation Control 1 (SOC 1) and (SOC 2), and Payment Card Industry Data Security Standard (PCI DSS) requirements.