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Driving medical and clinical resource optimization strategy in APAC healthcare

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"Respond, Recover and then Reimagine" ; In conversation with Antonio De Castro, Senior Industry Consultant, Global Health and Life Sciences Practice

The gushing impact of the pandemic is strengthening medical/clinical research analytics through digital transformation. In line with this, healthcare analytics frameworks are boosting safer and faster deliveries of novel therapies and vaccines across the drug development spectrum. Like the rest of the world, the APAC region has not prioritized prevention over cure within health care. We have focused on treating illness when presented and managed a demand-based health care prioritization. The current Covid-19 crisis has shown that resources that are allocated in this way can be rapidly overwhelmed when demand spikes occur. Modern health service can be accelerated by appropriately utilizing capabilities at health care analytics. Locating and accurately calibrating resource availability is the key to expedite health services for efficient deployment of medical devices, patient data, clinical progress and many more. **Antonio De Castro, Senior Industry Consultant, Global Health and Life Sciences Practice at SAS (Singapore)** shares complete insight into healthcare data analytics.

- **Elaborate the role of the analytical framework in personalized health care solutions? How can APAC better expand analytical horizons to accelerate healthcare practices?**

A healthcare analytics system enables the balance among users, equipment, and consumables. Crucial data such as the proportion of medical devices and actual number in use, accountability of trained staffs with healthcare device handling capabilities, stationing of medical staffs and devices, consumables deployed and further needed, all can be efficiently managed by installing advanced predictive analytics to accelerate health care success.

Technology, notably the Internet of Things (IoT), is a great enabler in this space as patients are acquiring data of their own through trackers and Bluetooth-enabled health devices such as scales and blood pressure cuffs. Utilizing this data to form a comprehensive patient record enables better patient outcomes. These new sources of data, in turn, can complement “traditional" clinical research data for drug development and the identification of adequate treatments. Additionally, data coming from medical-grade wearables and sensors can be used to develop so-called digital biomarkers that can support

clinical trials and drug development.

Apart from expanding access to analytic insights for all health stakeholders to increase data-driven decisions, healthcare organizations would merit promoting interoperability of data and flexibility within a secure cloud environment. By moving analytics to the cloud, would reduce time to insight through faster analytic data preparation, as well as reduce latency and processing time to ultimately improve health outcomes.

- **Ensuring compliance with the regulatory policy is crucial while exploring the vast potential of health data. Can you detail the benchmarks essential for upgrading data-driven health care analytics with Asian public sectors?**

The different countries in Asia have different levels of maturity when it comes to regulatory policy around data governance but all of them aim to provide security and privacy to their citizens.

In Singapore, for example, a National Electronic Health Record exists with clear access restrictions for employers and insurers in order to protect the citizens from potential bias and discrimination. Besides health records privacy, other important benchmark policies to consider would be around secondary use of data, patient access to records and access to social determinants data.

The current pandemic also gave rise to multiple contact tracing technologies deployed across the Asia Pacific creating new security and privacy challenges. This phenomenon mandates both the private and public sectors to find ways to maintain a balance between public health and personal privacy.

Hosting analytic solutions provides access to data. So it is important to have transparency with the public sector about how we handle the data end-to-end. This can also be done by remotely managing analytical solutions within public sector platforms.

- **Can you explain the strategic execution of modern trial designs by SAS Health and how it supports decentralized clinical trials?**

Decentralized clinical trials are “patient-centric” because their goal is to make clinical trials convenient for participants by decreasing or removing the need to travel to clinical sites. This, in turn, reduces drop-out rates making the trials more efficient and accelerating the time it takes for drugs to reach the market.

As participation in decentralized clinical trials is easier and more convenient, this has a positive impact on the recruitment, representativeness, and diversity of the study population. These trials would also involve the adoption of new technologies and therefore new data to integrate into the statistical analyses. With patients being closer to their normal/routine state and connected technologies, decentralized trials can give a more holistic view of the patient.

It has become more important to collect and analyze integrated data in real-time through embedded AI/ML, image analytics, the Internet of Medical Things (IoMT) and others for improved clinical research decisions. To reduce the burden on the clinical trial participant, hospital visits are being reduced and more data is being collected remotely, at home or at a primary care facility. The ability to analyze multimodal clinical data, transform them into standards-compliant and high-quality information and provide traceable and robust analytics is key to successful submission to regulatory authorities. SAS Life Science Analytics Framework accelerates time needed to gather insights from new innovative vaccines and therapies and allows for greater collaboration between pharmaceutical sponsors and research organizations. It is hosted and managed in a fully regulatory-compliant cloud environment which helps global teams and their external partners access and analyse clinical data from the same source with proper audit trails.

SAS Life Science Analytics Framework accelerating clinical research through;

- A seamless open-source integration with the ability to program in SAS, R and Python making it an inclusive, progressive and flexible open platform. With new sources of data and new types of trials such as virtual and decentralized trials, this integration will help harmonize the different types of relevant clinical research data.

- Inclusion of study metadata and data standards enhancement for easier and more complete definition of study details. This promotes transparency and facilitates communication with external entities such as regulatory bodies and therefore accelerating claim submissions.

- Automation of the development process to ease tracking effort for clinical study report development. Automation of default or standard analyses gives clinicians and biostatisticians faster access to preliminary information and more time for interpretation and development of more complex analyses such as simulations and modelling.

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