

Siemens Healthineers: Intends to Aggregate & Integrate Data to Turn into Significant Information

Big data pools thousands of patient experiences, indicating what treatments work best for customers, shares **Vivek Kanade**, Executive Director, Siemens Healthcare Private Limited with **Elets News Network (ENN)**

How is the enormous volume of data collected during clinical practice & research going to impact the entire healthcare system in the coming days? Please enumerate the key repercussions on the population.

To bring it to the point, collecting data will enable much better informed, more objective decisions with results that have repeatable quality. However, data by itself will not do the trick. It needs to be transformed into useful information. When healthcare providers harnessing the large quantities of data already collected combine data with new patient-generated information, it will accelerate adaptability of big data to the major challenges facing the industry, which are mainly to reduce costs, while at the same time maximising outcomes for each patient.

Providers that implement best practices can immediately streamline a number of their processes, including coding, billing and supply management practices. Most importantly, big data will let healthcare providers, both large and small, access and analyse their patient outcomes to pinpoint where money is best spent and where it can be saved.

Big data also allows healthcare providers to meaningfully evaluate their practices and compare them within and across organisations. Big data pools thousands of patient experiences,

indicating what treatments work best for customers.

Long a buzzword in the field, big data will make personalised medicine a reality. Precision medicine is promising a diagnostic and therapeutic approach towards a patient that is much more tailored to an individual's requirements. Increasing the number of recognised different groups of diseases and patients on the other hand decreases the number of comparable patients within these groups. The availability of larger data sets offers a chance to find statistically significant information needed to practice precision medicine.

When unlimited data remains ungoverned and unprotected, there exists the risk of big data becoming a liability rather than an asset. What measures are being undertaken by Siemens Healthineers to tap the real potential of 'Big Data'?

Our big data activities follow privacy by design approach to avoid an ungoverned growth of data pools. Data protection is a core requirement in all product definition and engineering efforts in this direction. Let's take our software teamplay as an example. With teamplay, Siemens Healthineers offers a

cloud-based network for physicians, medical professionals and decision-makers in healthcare. It allows simple evaluation of capacity utilisation for imaging equipment, various workflows, and individual tests and examinations. For solutions like teamplay, we



follow a managed service approach by partnering with industry leading partners, such as Microsoft, to apply state-of-the-art IT security and data protection technology at a level that would be hard to reach in a non-managed service setting.

Because it handles personal and potentially sensitive information, teamplay puts a strong focus on transparent data use:

- **Compliant with applicable law:** Software teamplay helps healthcare providers to work in compliance with local regulations and applicable laws on both data privacy protection and data security.
- **Enabling organisation's privacy policy:** Three pre-defined data privacy profiles allow for a robust transparency and control over the patient data that is processed by teamplay.
- **Compliant beyond borders:** Software teamplay meets the United States (US) standards of Health Insurance Portability and Accountability Act of 1996 (HIPAA), as well as the requirements of the European Data Protection Directive.
- **Protected by a strong security partner:** Employing the Microsoft Azure cloud comes with cutting-edge security to avoid breaches and malicious attacks. Encryption and segregation most prominently help to safeguard all data.
- **Retaining full control:** Protected health information will not be uploaded into the cloud without consent, including patient consent to third party data access as required

Siemens Healthineers – Key Features

- Holds a substantial pool of algorithms that can automatically detect anatomy & can help enrich unstructured image data with structured data
- Provides the infrastructure to exchange data & collaborate among different information systems to support coordinated, more efficient & patient-centered care

Big Data - Key Takeaways

- Will let healthcare providers analyse their patient outcomes
- Will allow healthcare providers to meaningfully evaluate their practices and compare them within and across organizations
- Will make personalised medicine a reality
- Will provide statistically significant information needed to practice precision medicine

by the applicable law.

- **Transparent use:** An agreement ensures joint responsibility of all involved parties and lists obligations of security and confidentiality elements for patient information.

What are the key objectives of Siemens Healthineers when it comes to 'Big Data Management'? How do you intend to expand in this sector which seems to have no end?

Our aim is to bring medical devices, healthcare professionals and patients together. Building on our deep understanding of the diagnostic imaging, in-vitro diagnostic and advanced therapy areas, it is our objective to gain compliant access to data. We intend to aggregate and integrate the data to turn it into information and be able to derive insights that in turn help our customers to answer their existing and upcoming challenges, based on data insight.

Based on teamplay, we will build a rich ecosystem of a network and applications. We provide the

infrastructure to exchange data and collaborate among different information systems to support coordinated, more efficient and patient-centered care. We provide a cloud-based platform & network for intelligent data services, supporting decisions for providers and process optimisation. This will help our customers to:

- Gain valuable insights
- Streamline processes by analysing big data
- Plug into true value-based care by discovering and correcting inefficiencies

According to the International Data Cooperation (IDC), the overall size of the digital universe will be tenfold what it was 5 years earlier. Keeping this statement in mind, what research & development (R&D) is being done by Siemens Healthineers to ensure smarter data management approaches and tools?

A large part of the growing data pool is unstructured; take diagnostic imaging as an example where a lot of data is pixel data that encodes information about physiology and potential diseases in a patient. Siemens Healthineers holds a substantial pool of algorithms that can automatically detect anatomy and can help enrich unstructured image data with structured data about the images aiding the development of systems to smartly access and process the data further. ☺