HEALTHCARE FOR THE DIGITAL AGE

Sastry Chilukuri
EVP, President of Medidata Acorn AI

Much like a suit that is tailored to the contours of an individual's body, medicine that is made specifically for a single patient is a better fit. Researchers—armed with clinical, genomic and molecular data as well as socioeconomic, lifestyle, and environmental information—can offer more effective treatments. To do this, however, data sources have to be linked and data must become "liquid." Medidata Acorn AI helps pharmaceutical companies make faster, better decisions in drug development. Here, Medidata Acorn AI's president, Sastry Chilukuri talks about precision medicine's potential and the kind of care that is designed for the digital age.

Q: How quickly is precision medicine advancing?

A: Precision medicine continues to rapidly expand in impact. We see examples of precision medicine in action every day ranging from CAR-T therapy to gene editing via CRISPR technologies to digital surgery and custom implant manufacturing. The convergence of scientific breakthroughs, availability of enormous volumes of patient data and AI technologies continue to accelerate this trend.

Q: How can we best use data to advance medicine?

A: The sheer volume of individual level data opens new vistas to advance medicine. Combining genomic, molecular, behavioral, and environmental data helps us shrink the distance between the physical and virtual worlds and develop better treatment options for the patient. However, this is not an easy undertaking. Discerning signal from noise and overcoming bias is challenging. The path to better patient outcomes is not always obvious. This is also the biggest opportunity and we are seeing the brightest minds drawn to these problems.

Q: How are advancements in AI impacting precision medicine?

A: We are still in very early days of experiencing the impact of AI innovation in precision medicine. However, the early successes hold tremendous promise. For example, in the work that we did with Castleman's Disease Collaboration Network (CDCN), we were able to identify a population of patients with a specific biomarker who responded significantly better to a drug than other patients. Similarly, in cancer care, bringing together genomic, imaging, lab, and clinical information allows physicians to develop better treatment plans. We are very close to a world where AI will help practitioners treat patients every day.

Q: Can you think of a parallel to precision medicine in any other industry and time?

A: We have seen the mass customization phenomenon in action for a long time in other sectors like fashion and consumer electronics. For a while now, customers have been able to design their own shoes or laptops. We're now seeing that come to healthcare. Practitioners can look at the vast volumes of data and design a treatment plan, and in some cases, a therapy that is tailored to the individual. This is exciting.

PRECISION MEDICINE DELIVERS IMPROVED PATIENT OUTCOMES

The goal of getting the right drug to the right patient at the right time - the promise of precision medicine - requires new tools and a new mindset. More, diverse patient data will power the insights and evidence to dramatically improve health outcomes.

Glen de Vries, co-founder and co-CEO, Medidata, a Dassault Systèmes company

Precision medicine represents a new era in drug development. Artificial Intelligence, computer models, and data sharing are fueling early victories. Discover how to increase its widespread adoption with digital platforms, integrated strategies, and a connected ecosystem at: **medidata.com/precision-medicine**

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