How important to patients is digital transformation in healthcare and how can it help to improve healthcare in general?

Digital transformation in healthcare is essential to improving the quality and efficacy of healthcare and outcomes for patients. Many processes in healthcare today could produce better outcomes if digital tools and solutions were included. Artificial intelligence and robotics are certainly two of those areas that will have a profound impact on healthcare in the future.

In both the US and Germany, many startups and young companies are emerging that design apps and other tools to help patients with their healthcare. How can artificial intelligence, for example, be used to improve healthcare?

There are many ways artificial intelligence can be used to improve healthcare. Think about the case when a person seeks medical attention because he or she doesn’t feel well. A doctor has to consider the described symptoms and the condition of the person and decide whether or not it’s a serious medical situation that requires urgent intervention. This can also be done by artificial intelligence with the help of algorithms that are trained to do what doctors have been trained to do over many years: that is, to ask questions about the condition of the person, to consider the history of the person and to then come up with a preliminary diagnosis. And this is just one example of how software companies are already bringing AI to the practice of medicine.

The Hasso Plattner Institute for Digital Health at Mount Sinai was established in March this year. What are some of the concrete projects you are working on at the institute?

We have two main projects that will support many issues in digital health. We are establishing a digital cohort in which patients are given apps and equipped with sensors. That enables us to collect data outside of the medical-care context that is relevant to the understanding of a person’s health problems. This new data will be connected to the data in the patient’s electronic health record as well as to genetic data. This is a groundbreaking new type of cohort to better understand health and disease issues as well as treatment responses.

The second big project will bring together digital-engineering, technology and health-informatics experts to develop a health data platform that allows an AI-driven digital health ecosystem to be implemented.

As a transatlantic business organization, we would like to ask: What can Germany and the US learn from each other when it comes to digital medicine and e-health?
The basic organization and composition of the healthcare systems in the US and Germany are fundamentally different and each has certain disadvantages and advantages.

Germany could learn how the market-driven US healthcare system manages to be the most innovative in the world. The US could examine features of the highly regulated German healthcare system to learn about how to implement a citizen-wide health insurance system and create open access to quality healthcare.

How can Germany and the US work together to develop new innovations in digital medicine?

I see many opportunities for co-innovations and co-development by connecting German and US entities. Our newly formed cooperation is one example of bringing Hasso Plattner Institute’s excellence in digital engineering, AI and digital technologies to a world-renowned academic institution such as the Mount Sinai Health System in New York. Here, German technology- and engineering-driven companies can benefit from the openness and accessibility of the healthcare systems in the US. And the US system can benefit from the highly developed technology and engineering capabilities of many German companies.