

For smart use of health care AI, start with the right questions

SEP 9, 2021

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Computers can sometimes show a surprising lack of common sense. That's why asking the right questions, using the right data and guarding against the introduction of bias are keys to making augmented intelligence (AI) a valuable decision-support tool that is often called artificial intelligence.

"Your clinicians can program the protocol you want for the alerts and predictions you want," said Ben Maisano, chief digital and innovation officer for New Jersey's Atlantic Health System, an AMA Health System Program member.

"If we're trying to reduce hospital stays, or we're trying to understand if our accountable care organization is profitable, or if social determinants of health data helps us better take care of someone, or predict a risk for readmission, you've got to understand what problems are you trying to solve and mapping that to the outcome you want—and then go fill in the blanks," said Maisano, who is a co-founder of CareDox, a platform that connected schools, pediatric practices and families in 38 states.

Maisano spoke during a virtual meeting of the AMA Insight Network that covered how to get a health care AI program up and running, and how to use it properly.

The network aims to help AMA Health System Program members gain early access to innovative ideas, get feedback from their peers, network and learn about pilot opportunities. [Learn more.](#)

"Don't start with, 'We want to use AI for radiology triage,' because you're starting in the middle," Maisano explained. "We take the approach of: What are our problems? And: Where are we well-positioned to execute?"

Asking the right questions is fundamental, said Edward Lee, MD, the executive vice president for information technology and chief information officer for the Permanente Federation, and associate executive director of the Permanente Medical Group, an AMA Health System Program member.

“I think Ben said it really well actually: What is the problem that we're trying to solve?” Dr. Lee said. “That's the first question we need to ask and answer before you embark on any program.”

Other must-ask questions include:

- Will this help us to take better care of our patients?
- Does it make it easier for physicians to provide care?
- Could it lead to better outcomes?

Another important point to remember, Dr. Lee said, was that AI “is intended to enhance, assist, complement and augment human intelligence and not necessarily to replace human intelligence.”

He outlined these three main “buckets of opportunity” for health care AI.

Computer vision, which includes and specialty that deals with digitized images—such as radiology, dermatology, ophthalmology and pathology—is considered fertile ground for health care AI.

Predictive analytics, which involves using hundreds or thousands of data points to understand the likelihood of a particular event occurring. It can be used to predict hospital readmissions, fall risks and emerging COVID-19 hot spots.

Natural language processing, which involves interpreting unstructured data and can be used, for example, to search records for patients who have not had needed follow-up care.

Scale is also important, Dr. Lee said. He explained that a system needs to have a diverse and robust team processing a diverse and robust stream of data that is representative of the patient population it serves.

“You want a diverse group of people with diversity of thought, because if you do things in a very narrow or potential tunnel vision way, the risk of bias can be introduced much more,” Dr. Lee said. “If you don't look for bias, you'll never find it.”

Health care AI's lifesaving promise

He described a *New England Journal of Medicine* study, “Automated Identification of Adults at Risk for In-Hospital Clinical Deterioration,” by researchers from Kaiser Permanente. They examined a health care AI program that alerted clinicians when it appeared a high-risk patient's condition was deteriorating.

The intervention group had a 16% lower mortality rate, and lower rates for intensive-care unit admission and shorter hospital stays. Patients were also less likely to die without a palliate care referral.

The panelists agreed that developing an effective health care AI program takes time.

“You don’t jump into the future,” said Maisano. “You have one foot in the present and one foot in the future and you’ve got to bring people along at their comfort level.”

Learn more about the AMA’s commitment to helping physicians harness health care AI in ways that safely and effectively improve patient care.