Interviews

This year, EMJ is thrilled to introduce key opinion leaders Tom Davenport, Babson College, Wellesley, Massachusetts, USA, and Rick Abramson, Vanderbilt University, Nashville, Tennessee, USA, whose interviews explore the future of AI in healthcare. Covering the ways in which AI is already helping patients today, as well as the collaboration between humans and technology, these expert interviews spotlight key discussions happening in the field today.

Featuring: Tom Davenport and Rick Abramson

Tom Davenport

Distinguished Professor of IT and Management, Babson College, Wellesley, Massachusetts, USA

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Q1 You are an expert on all things AI, having authored multiple books, and given several talks on the subject, both with regard to business and medicine. So, in which areas of healthcare specifically is AI already being implemented? Would readers be surprised to find out about the use of AI in certain fields or tasks?

For clinical applications of AI, it's still early; most are unlikely to be found at the patient's bedside and are still in the research lab. There are plenty of potential breakthroughs in patient care, but they need to be refined, tested further, approved by regulators, and integrated into clinical processes. There are, however, many implemented examples of AI in administrative processes, including scheduling, payer approval, payment claim adjudication, and so forth. These typically don't require regulatory approval and don't have to be perfect, since they don't involve direct patient care. There are also effective mobile app-based AI systems for primary care practitioner use that perform triage, initial diagnosis, and initial treatment plans. They are very popular in China and South East Asia, but are not widely used outside of that region yet.

Q2 What, in your expert opinion, is the most groundbreaking application of AI in use today in the world of healthcare?

In terms of actual benefit to patients, I would point to the mobile app platforms in Asia, because they provide care to hundreds of millions of people who wouldn't otherwise have access to it. In terms of what's coming out of research labs, I would vote for the AI applications that enable much earlier diagnosis of neurological conditions like Alzheimer's and Parkinson's disease.

Q3 How does the use of AI in healthcare settings impact patient care? How might this continue to change in the future?

As I say, not much yet. But I believe it will be very influential in the fairly near future. I think that medical generative AI models will become very good at diagnosis and treatment recommendations, and they will broaden access to care enormously. AI systems are also making it possible for clinicians to spend more time listening to patients and providing care, rather than typing in symptoms to electronic health record systems or clinical notes.

Q4 In one of your many books, 'Advanced Introduction to Artificial Intelligence in Healthcare', you discuss how AI might impact policymakers; can you expand on these possibilities for our readers?

It will be the job of policymakers and regulators to determine when and under what circumstances we incorporate AI into our healthcare systems and processes. There will be many voices for and against particular AI incursions, and it will be difficult to decide when to allow it. Over time, however, I believe that the combination of human clinicians and intelligent systems will provide better care than we have today. There will

be many consumers and patients who will take their care into their own hands with the help of AI if they are not allowed to work with clinicians who are augmented with the technology.

Q5 Much of your work talks about human collaboration with smart systems; what are the best examples of this that you have come across in your career? Is there a specific approach that you encourage people to take when it comes to collaboration with technology?

I almost always feel that smart humans and smart machines working together are more effective than working alone. But that collaboration will take many

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different forms. Already in surgical robots, for example, the surgeon makes all the critical decisions, and the robot executes them. I think the first step is for clinicians and administrators to sit down and discuss what the desired collaboration should look like in any given situation, and work toward achieving that. The best examples that I have seen try to limit the role of an AI system so that there is a clear role for human clinicians to contribute their expertise and override the AI-based recommendation if they deem it necessary.

Q6 As a distinguished professor, do you believe that AI should now have a place in the classroom, both as a tool and a topic to learn about?

Yes, I think it's inevitable, and I and many colleagues are already working with students

to determine how best to use it effectively. The keys to success, I believe, are the same as in health care: to maintain involvement by students and teachers, and to think critically about how to make the outputs of AI better.

Q7 Much of the discourse surrounding the increased use of AI has to do with job security, as I am sure you are aware. Do you believe there is any validity to concerns about AI one day taking jobs from humans, especially in healthcare settings?

It's important to keep monitoring that issue, of course. However, thus far there has been little or no job loss from AI in healthcare or any other field, except from robots in manufacturing. There is a shortage of doctors and nurses in almost every part of the world these days, so anything that could improve their productivity

and give them more time with patients would be a positive step. Healthcare is also too expensive for many people and governments today, so bringing down the cost with AI would also be a positive outcome.

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