

Transcript Details

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AI in Infectious Disease Care: Promise and Practical Limits

Announcer:

This is *Clinician's Roundtable* on ReachMD. On this episode, we'll learn about the potential role of AI in infectious disease care with Dr. William Short. He's an Associate Professor of Clinical Medicine in the Division of Infectious Diseases at the University of Pennsylvania Perelman School of Medicine in Philadelphia. Let's hear from Dr. Short now.

Dr. Short:

In terms of artificial intelligence in infectious disease practice, I think it's still very early. I think providers are still trying to figure out how to use it, if they should use it, and answer some questions.

However, there are some clear wins here. I think it's important in things such as antimicrobial stewardship. There are actually machine learning models that could be developed for sepsis warning and resistance prediction to help guide your empiric antimicrobial choice before you get culture results, as well as personalized antibiogram that will account for the patient's own microbiology history rather than hospital averages. So I do think it's in its very early stages, but I do see that AI has the potential to really help shape what we do in infectious disease.

The biggest limitation or concern when it comes to using AI in infectious disease practice is, one, it's not used by everyone. Many people are fearful of AI. I hear this from many of my colleagues. They're not sure how to use it. They're fearful of it. 'Is it going to give me the right answer?' I think it can really help in the areas I mentioned, but I think validation is a recurrent weak point. We really have to validate these models. And also, there's an equity risk. Models trained on one hospital's data can encode that population's biases and then underperform in other places. So all of these workflow issues and problems really need to be hashed out for it to really be working in a better way to help and assist infectious disease practices.

But for clinicians, I think there's a way to strike a balance between embracing AI's potential and then also maintaining clinical judgment. I think the punchline for me is you want to treat AI output as just one more data point that feeds clinical judgment but doesn't replace it. And I think that's key. And when I hear people and have discussions with people about AI and its role, we all talk about how AI has the potential to change many things—infectious disease practice, research practices—and all these people are talking about how to incorporate this.

I think what's often left out is it's one more data point, not a replacement. And I think I hear some people say, "Oh, AI does everything for me," and it's not true. You have to realize it is artificial intelligence. While it's good, you still have to be able to feel your way out and make sure that you're looking through and making sure everything's complete and accurate, and I think that's the real point that needs to be hashed out. Look at it and make sure that it's really going to work for you, that it stays valid as the epidemiology shifts, and that it gets updated because AI may be behind on that stuff you're dealing with. So I think all of that is important to say: treat it as one more data point, not a replacement for it.

Announcer:

That was Dr. William Short talking about the potential benefits and limitations of using AI in infectious disease care. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!