

### Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/acc-action-center/exploring-the-use-of-ai-to-detect-hfpef/15110/>

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### Exploring the Use of AI to Detect HFpEF

#### Announcer Open:

You're listening to *Heart Matters* on ReachMD. On this episode, we'll hear from echocardiography expert Dr. Patricia A. Pellikka, who serves as Editor-in-Chief of the Journal of the American Society of Echocardiography and Director of the Mayo Clinic Ultrasound Research Center. Dr. Pellikka will explore the use of AI algorithms to detect heart failure patients with preserved ejection fraction, or HFpEF for short. Let's hear from her now.

#### Dr. Pellikka:

At this year's ACC, there was a lot of interest and many presentations regarding applications of artificial intelligence to cardiology presentations included assessment of the electrocardiogram with AI, and also the role of AI in analysis of big data and the role of AI in analysis of echo data.

I'm so excited about our own research with AI and heart failure with preserved ejection fraction. We hypothesized that from limited echocardiographic information, namely an apical four chamber view, which is a standard view obtained with any transthoracic echocardiogram, we would be able to identify patients with heart failure and preserved ejection fraction.

However, despite our best efforts, inexperienced laboratories, sometimes the echocardiographic information is inconclusive in as many as 40 percent of patients. So being able to detect it with machine learning with artificial intelligence would be a great lift to the practice of echocardiography.

AI applied to echocardiography is very important because we now have a national shortage of sonographers. And if we can assign some of the tasks that are currently performed by sonographers to artificial intelligence, it will save time and increase reproducibility of the information. It's important that echocardiography measurements are regularly made, that the technique is quantitative, and that it's reproducible. AI can really help in this regard. Some of the tedious measurements that's in sonographers obtain on a day-to-day basis can be done by AI, saving time, the sonographer's time the physicians time who's interpreting the study, and also the patient's time who's having the examination. Hopefully, this could increase the throughput through laboratories and increase the access for patients to echocardiography. So more work is needed to validate AI algorithms. And this needs to be done with multicenter studies, with different ultrasound systems, different populations of patients, just to make sure that our algorithms continued to work well, in all different groups.

There are lots of advantages to applying AI to echocardiography, it will improve our standardization, our quantitation. And I think it will ultimately improve our ability to detect subtle and difficult and rare diseases. This is very important, and the future is truly exciting.

#### Announcer Close:

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