

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/clinicians-roundtable/pulmonary-arterial-hypertension-care-next-steps/56337/>

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What's Next for Pulmonary Arterial Hypertension Care?

Announcer:

This is *Clinician's Roundtable* on ReachMD. Today, Dr. Stephen Y. Chan will be sharing his thoughts on the future of management for pulmonary arterial hypertension, or PAH. Dr. Chan is a Professor of Medicine at the University of Pittsburgh, where he also serves as Director of the Vascular Medicine Institute and Director of the Center for Pulmonary Vascular Biology and Medicine. Let's hear from him now.

Dr. Chan:

I have a few ideas about what we think are most exciting. The first is that I believe that there are scenarios here where we can do a better job of understanding how each individual PAH patient experiences life in real time, across years of just living in their specific community. What do I mean by that? I mean that there are ways now where we can actually track a person's diet, a person's exposure to pollution, a person's exposure to exercise, a person's ability to really interact socially, molecularly, and otherwise with their entire ecosystem. That is something that I think we all suspect is very important in driving disease.

We already know that there are some genetic or hereditary ways in which we are predisposed to disease in one way or another. But they all interact with how we experience life. And so, if we have an ability—meaning in the form of a wearable device, like a wristwatch or a ring that will actually detect and track all the ways that you are experiencing your environment—can we build into that an algorithm? How is that, essentially, causing changes in your disease process, and how does that interface with the molecules and the genes that you have in your own person?

That is part and parcel of the entire way in which we think artificial intelligence may also help us as well to be able to digest all of those pieces of information in real time and say, "This is who you are right now based on your genetics, based on your environment, this is how we think your disease is going to progress over time, and this is the type of treatment that we think is going to be best." So that's one type of innovation I think would be very important to think about.

The other thing that we have been thinking a lot about—and I think is an advancing idea—is that there are new ways that we think have been ignored in how the disease is manifesting. We think about pulmonary hypertension as a disease of the blood vessels of the lung. Historically, we've always been focused on, okay, we need to focus on the lung, we need to focus on the blood vessel, and we need to focus on the heart. Those are the three essential areas of the organs that we care about. Just those. Those here, nothing else really matters.

Now, we are much more aware, and there is an increasing appreciation that there could be systemic manifestations of the disease across the body. So even though the heart and the lungs are affected, what about the brain? Cognitive function? Social stressors? What about anxiety and depression? What about the liver? What about the kidneys? What about exercise tolerance and your skeletal muscle and your endurance in that regard?

All of those things are, I think, avenues, where our patients have said, "Yeah, absolutely, you know, I'm affected that way." And we've just kind of thought, "Okay, yeah, we understand that it's probably your heart and lungs driving that, and as long as we fix the heart and lungs, the rest of it's going to pan out."

Nowadays, we think that maybe that's not the case. Maybe there are independent, complementary ways that we are seeing anxiety, depression, and cognitive dysfunction in people with pulmonary hypertension that we need to think about separately. Should we be involving more holistic understanding of the disease in the body in this regard?

Our lab, as well as others, have been really interested in molecularly, structurally, what's happening to the rest of the body with pulmonary hypertension, not just the heart and lungs. And I think we're going to be finding a lot more about that in the future. It's going to be quite an experience in terms of discovery, but I also think that, as we understand that, we will do better in terms of managing the whole body as compared to just the heart and lungs.

Announcer:

That was Dr. Steven Y. Chan discussing what PAH care might look like moving forward. 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!