Edward Prewitt: Thanks, Tom. I'm here with Ranju Das, who is Chief Executive Officer of OptumLabs, which is United Health Group's R and D arm. Ranju, you recently joined OptumLabs from Amazon. Please speak to why with your background in technology, you were drawn to healthcare.

Ranju Das: Thank you, Ed. Thanks for the introduction and thanks for this opportunity to talk to your audience. I've been spending my last [00:00:30] 20 plus years in tech, and most of the time in cutting edge of innovation. We started in banking, then retail, then on to digital device, onto AIML with AWS. And I think one thing that has always excited me is big daunting customer problem and using tech and product to solve it. And I think when I kind of looked at the opportunity with United Health, I was impressed by the obsession about solving this healthcare problem [00:01:00] at every level of the enterprise. And I think we as an industry are an inflection point where I think the technology, big data, AIML and behavioral aspects of the different participants of healthcare is going to change how healthcare gets delivered, how healthcare is treated, how healthcare operates in the fullness of time, and I think I'm excited to be part of this journey.

Edward Prewitt: Well, let's talk about that inflection point that you mentioned. What [00:01:30] are the big intersections of healthcare and technology right now?

Ranju Das: I think there are six key areas I expect to really make a big difference in the future. I think we'll see more novel ways of data sharing. I think we'll have to think through what interoperability means, where me as a patient, when I go to the doctor, a lot of time, my just prior visit to a doctor is not available to that physician. So, that interoperability [00:02:00] of this different systems with hospitals, be clinics, be therapy sessions that I go to, that would be a big part. I think equitable access to health is becoming mainstream and United Health is very focused on being a thought leader and driving actual change in that space.

I think we are finding consumers are also more empowered now. They want the best of solution at the lowest cost. I think with focus on behavior change, [00:02:30] be it behavior of payers, behavior of providers, behavior of members, patients, individuals, and then finally scientific breakthrough, be it in computing, the advent of quantum computing, what it could do to healthcare, AIML in healthcare and then just clinical research for new care involving delivery. It creates that inflection point that I think bodes well for the industry.

Edward Prewitt: Well, lots of opportunities, but of course technology is sometimes criticized for harming the care [00:03:00] delivery experience rather than helping. And for instance, physicians burdened with EMRs. So how can technology help that clinician burden rather than just pile on?

Ranju Das: Yeah, I think that criticism is very fair. And I think part of the challenge I see with technology in general is when technology is built as a solution and then imposed on a problem. Whereas I think in the United Health and in OptumLabs, we are starting with the customer [00:03:30] and here we are saying, "Here is a physician, what do they need help with? And how do we work backward from that problem statement to create solutions that actually works for them, that truly helps them go forward?" Part of our also thesis is that we actually feel that the primary channel of care delivery would continue to be the physicians and nurses. And we don't see in meaningful timeframe, technology and AIML [00:04:00] automate things and disintermediate that cohort of care providers. So then if we accept that thesis, then we are focused on understanding their pain point, be it a physician, be it a nurse, be it a clinician, be it a patient, and what do we need to do to solve that pain point?

I think that focus is what's probably going to bring technology into more usage and adoption. The other bit I think is that if you look at a lot of hype [00:04:30] around AI and ML, the industry had expected AI and ML to be a silver bullet to solve a lot of problem, to automate a lot of issues. I personally am of the believe that AIML would continue to be a very powerful tool, but in augmentation of human intelligence, not replacement of thereof. What it means is that when I went and talked to a bunch of physicians in recent past, they all uniformly told me that, "You know what? I don't need necessarily help [00:05:00] with diagnostics, but I need help with knowing what time I want to spend with which patient because otherwise I'm just spending equal amount of time irrespective of the critical aspect of the condition or the symptoms. And maybe you can help me with that."

I think clinical decision support systems have to be more aligned with what would help a physician's problem. So, I think we see technology again as an enabler, as a tool for augmenting current workflow and bring more efficiency, and [00:05:30] working backward from their problem, which is what I think would be the key to success here.

Edward Prewitt: Very good. So rather than specific technologies, when I ask about areas of healthcare, healthcare delivery, where will technology likely have the most impact between now and 2030?

Ranju Das: I think those six key areas I talked about in the first part is where I feel, I think. And that's where, by the way, also where OptumLabs is spending a lot of focus and [00:06:00] energy in terms of our research and development capability to accelerate what I believe Optum and United Healthcare was already doing in terms of furthering technology and innovation for our providers and our patients. I think you'll see a lot of technology and AIML that would improve the domain and the engagement for health equity, remove the disparity of healthcare. I think the [00:06:30] effectiveness largely focus on our provider experiences, our patient experiences as well as their workflows is a part where I think again, technology would play a disproportionate part. I think we need to look at the affordability. That if you believe the numbers that you see in public domain, anything between 20 to 30% of the healthcare spending is today considered waste.

How can you bring that value back [00:07:00] to the physicians and members who are on the day-to-day basis, the consumer of this product and tools. So, what can we do to remove wasted, be it in care and services, be in administrative cost, is a big part where I think, again, technology, the big data, the pattern aspects of AIML can be helpful. I think there's a wellbeing and care delivery as a theme is another area we feel, how do we bring... If you look at the research [00:07:30] today, a lot of physicians don't trust the data. There's this huge amount of data coming from the connected devices, the smart devices, yet they're not built in such a way that the physicians can trust them, can operate on them. To make things worse, they don't even have the time to grow that amount of data.

So, what can we do to improve wellbeing and care delivery at a very organic level, which has to keep in mind, again, both the physician as well as a patient. And I think that's again where [00:08:00] interoperability comes into play, that's where technology can play. That's where I think user experiences have to be re-thought and re-done. And then finally and maybe most importantly, I think healthcare is extremely complex domain, be it because of regulatory reason, be it because of the silos that they inherent creates when you go to a lab, then followed up going to a hospital. If you're in a ER, if you're in a hospital, in a doctor's office, how do you make all these data available [00:08:30] in a way that we meet the highest and strictest privacy needs of our members and patients, and yet make it available so that we could create awesome solutions for the physicians in terms of decision making, but also for patient in some of the engagement in giving them better advice and better suggestions.

And so I think the data and the core platform is an area where I think the modern computing mechanisms, the tools that are available now, the innovation with, [00:09:00] again, I feel quantum computing would have a big impact on healthcare, and AIML is where I think we want to focus on.

Edward Prewitt: Well, for all of the opportunities in healthcare technology, one thing that NEJM Catalyst has uncovered in some of our own research is that a lot of clinicians, they're in sort of the trough of disillusionment phase of adoption of healthcare. [00:09:30] How can the healthcare industry and the technology industry get past that between now and 2030?

Ranju Das: I think it begins with a lot of... it's a duality of lot of solutions were pushed with the hope that AIML would change every industry for that matter. And then even prior to that, a lot of technology that has been built, be it the [00:10:00] EMR systems, be it the clinic decision support system, they're not helping the clinician. They're not helping them being more efficient. They actually has become an overhead for them in terms of data entry, in terms of how to manage the system, in terms of technical expertise necessary to operate them. So I think, again, I would go back to the it's time to rethink of who our customers are. And I think our customers are the physicians, our customers are the nurses, [00:10:30] and really sit down and understand what are their key pain points and what can we do to ease their experience? Is there value creation for the system?

And to me, as a sub sample of one, as a patient, as a member, I think the best value I get from my physician is the diagnostics that I get from him, the advice I'm getting from him. Because I don't see the effort and the [inaudible 00:10:58] that he's taking in after that, [00:11:00] in terms of data entry, dealing with billing codes and claim codes and all that good stuff. So, to me, to start with that customer, which is a physician or a nurse or a clinician, and work backward from their problem and designing solutions, which A) augment their intelligence, augment their efficiency, and B) remove the overhead that they deal with.

It's a funny story. I was in front of my primary care physician a few weeks ago and I asked the question that, "Hey, I'm dealing with AIML. I'm building, [00:11:30] thinking of research and development, what help do you need?" And his first curt response was, "Don't help me with diagnostics. Tell me which patients would be no shows." And that to me is really the crux of the problem. I think a lot of solutions are getting thrown down, which physicians are having a hard time, they don't believe in them, they don't know the accuracy of them. And I think as opposed to working on problems that they are dealing with and they want to focus on is a starting point.

Second domain I think is in a lot [00:12:00] of connected data, a lot of data from Fitbits and the Apple watches and the Garmins and all other brands that are creating this fitness and activity tracking, those data are not available to the physicians. Even if they're available, they're not trustworthy. So, how do we make this data and how do we compile this data in a way that you could give very crisp decision support input to the physician so they're making a better decision? How do you use that data as opposed to inundate the [00:12:30] member or a patient with that data set? How do you crisply summarize into, "Here are some patterns we are seeing, here are some direction and guidance, and here's a primary care physician you should talk to about it." I think that sort of experiences is where we think we'll disrupt, and necessary at this point to remove that disillusionment that you're talking about.

Edward Prewitt: Excellent. Ranju, thank you very much for this really interesting look at technology and healthcare today, and in the years ahead, [00:13:00] I know that the many physicians and nurses watching today will be cheered by your comments about treating them as the customers and helping them. Now, I would like to introduce Dr. David Bates, who is Chief of the Division of General Internal Medicine and Primary Care at Brigham and Women's Hospital. He will lead our next segment. David.