

[THEME MUSIC]

GREG HORNE: Hello and welcome to *The Health Pulse*, a podcast exploring how analytics in the health and life sciences industry is growing and the convergence that is impacting all our lives. My name is Greg Horne, and I am your host for the series. And as always, we'll be joined by my expert guests to discuss a topical subject.

So on this week's episode, we turn our attention to what does the future of health look like, with our guest, host of *WTF Health*, Jessica DaMassa. But before we get to that, we just would like to remind you that we have our *Health Pulse* podcast email address. So please feel free to send all questions, queries, comments, and future suggestions through to thehealthpulsepodcast@sas.com.

We really do enjoy reading your emails. We enjoy the feedback. And it is helping us to shape the series and to bring in other guests that are both relevant, interesting, and will bring a new viewpoint on today's issues. And today is going to be no exception to that.

So we have Jessica here. She is a very experienced presenter herself in what she does. But Jessica, over to you. Can you do a quick introduction, please?

JESSICA DAMASSA: Hi, Greg. Well, thank you so much for having me, first of all. And it's so exciting to be the guest on somebody else's show. That rarely ever happens to me. But you better be careful, because I might turn these tables and start interviewing you.

So very quickly, just to say hello to everybody, hi out there. I am the host of a video interview series called *WTF Health*, which stands for What's The Future, Health? Even though I'm sure many of you are probably giggling at the fact that we've all had those real WTF health moments-- anybody-- any time anybody has tried to fax something here in the health care industry-- we'll just start there, right?

But my show is basically a talk show. And what I do is, I bring on the CEOs of the leading health innovation companies around the world to talk about what they're doing in health tech, digital health, virtual care, and et cetera, et cetera, et cetera, to disrupt the way that we're currently doing health care. So I have a lot of entrepreneurs on.

And then in addition to those folks, I talk to a lot of investors who are putting money into that space. So a lot of venture capitalists or investors from incumbent organizations that may have a fund attached to them. And then I talk to a lot of innovation folks within some of the health plans or the health systems who are trying to make sense of these new technologies and integrate them in so that we can change the way that we do health care for the better.

I also host a show with a man called Matthew Holt, who founded a digital health conference about 15 years ago. So he's got some broad perspective on the industry as well. And our show is called *Health in 2 Point 00*, and we cover all of the big funding deals in the health tech space. So it's been a very busy year for us this year.

GREG HORNE: Yeah, I bet. Fantastic. Now, before we get into the main conversation, we always like to find out something about our guests that you just wouldn't know otherwise. So when you are not presenting and making these great TV shows and stuff, what is it you like to do as a hobby?

JESSICA DAMASSA: OK, so I've picked up a new hobby because I feel like-- OK, especially lately, I read something that said, as adults, we don't learn new things. When you're a kid, you'll go and you'll try a new sport. You'll adopt a new hobby, do whatever. Your curiosity is-- leads you to find your way. So I've picked up a new hobby. And you're not going to believe this, but I'm learning how to weightlift, legit weightlifting.

GREG HORNE: Wow.

JESSICA DAMASSA: Yeah. I've never done that before, very technical. I had no idea. Yeah, so I'm really-- I've been into this weightlifting.

I've also tried to pick up golf. I went once for a lesson. I just moved to Florida, so I'm trying to embrace the whole lifestyle. But yeah, that has not stuck as much as the weightlifting has. So lately I've been very into weightlifting.

GREG HORNE: Weightlifting. Well, that's great.

JESSICA DAMASSA: Yeah, I deadlifted 135 pounds. That's pretty-- I'm 100 pounds.

GREG HORNE: Wow.

JESSICA DAMASSA: I'm pretty tiny. I'm like Mighty Mouse or an ant. Who knows?

GREG HORNE: That's amazing. That's quite a hobby to go do. I-- yeah, I-- that's kind of left me a little speechless, to be honest.

JESSICA DAMASSA: Really. You didn't expect that? No.

GREG HORNE: I didn't expect that.

JESSICA DAMASSA: Yeah, I'm getting tough over here.

GREG HORNE: Fantastic. Well, so we know what you've been doing during coronavirus. But during-- for the rest of us during coronavirus, we have been really learning-- and you kind of picked up on some of these elements very quickly out of the gate there, about digital health, virtual care.

It's been very much in the front and center, I think, we've been doing. And it's just a part of the digital health revolution. So help lay the groundwork for me here. What's going on in health care in this space right now?

JESSICA DAMASSA: Oh my god. Money, money, money, raining down from the sky. Money everywhere. This has been-- like the last, let's call it since April of 2020 to now has been just, I mean, unbelievable amounts of funding pouring into this space. And for me, the way I define this space, I like to say health tech, broadly, as like the umbrella.

And then the stuff underneath it that I track is the digital health space, the digital therapeutic space, which is different-- it's more like prescription-type digital health, let's call it-- virtual care, which includes telehealth, and then some of the health IT things that either layer on top of an EMR to make it more useful or some of the population analytics, AI companies that are out there that are new.

But the amount of money, Greg, that has been pouring into this space is just absolutely insane. In 2020, total funding was \$14 billion, which to a big company like SAS is probably not a lot, looking at the client base that you guys deal with.

But for digital health, that's huge. I mean, to put it into perspective, the year before, our funding total was half of that, \$7 billion. So I mean, it doubled last year. And then already, this year in 2021, the first quarter was around \$6 billion.

And so they're expecting it to double again this year. We're looking at a total of about \$28 billion if everything keeps on track. So just for us, it's been one the most exciting years of all time.

GREG HORNE: Yeah, I bet. But let's just hone in on something there. So you picked up on one particular element, and that was the layering of useful applications above the EHR.

Now, I used to deer and sell a lot of the HRs in the past. And I always used to tell people that unless you use that data, you just have expensive paper. And expensive paper has kind of been the story of EHR around the world. Tell me a bit about how people are taking that next level step then.

JESSICA DAMASSA: Well, it depends. I mean, so there's a lot of different startups that are doing a lot of different things. There are startups that are focused on making the data more usable. There are startups that are focused on moving the data from one point to the other in less friction-full ways.

And then the coolest startups that I've seen that layer on top are the ones that are trying to figure out how to use that data to provide some sort of value in terms of a predictive value. So I love this company called Komodo, which uses claims data and they'll use-- they'll augment with some additional EMR data.

And they'll try to build, like recreate different patient pathways through the health care system and figure out how they can improve health outcomes, based on watching what certain outcomes people achieved as a result of looking at the way that the record comes to life when you put it in context of everything else that's happened in their health care journey.

So there's a lot of different pop health, analytics-type startups that are out there trying to do that. And then there are others that are augmenting and making it easier for clinicians to find and e-prescribe other digital health solutions. So there's a mix of things that are layering on top of them.

I mean, I think the goal for health tech has been to integrate where the business of health care is being done. And a lot of that does go back to the EMR or the HR.

GREG HORNE: So within the health industry, you say there's been lots of money, significant investment going on. So where are those investments going? What do you think are the key targets for that money?

JESSICA

DAMASSA:

Let me break this down a couple of different ways. So later stage startups-- so you have your startups that are seed funded, Series A. We're seeing a lot more money go into startups that are further along in the journey, so Series B plus. It was like the number of investments in those companies last year doubled from the previous year, which means that these companies are starting to gain traction.

They're starting to scale up. They're starting to do real things. They're making a real difference. So that's something to watch there.

The other thing that we saw last year that I think is important to point out is that the number of people who started investing in these health tech startups, it expanded. And so the kind of investor expanded as well. So we've seen a lot more private equity money come into the space than previously.

We've seen some of these companies raise money via special placement acquisition corporation, IPO, or a SPAC IPO. I'm sure you guys are getting familiar with that lingo. But there have been multiple different ways to exit and to raise funds, which has been new for us in health tech.

And then in terms of areas of focus, if I had to pick, I would say there's probably three big areas that just seem to be getting funded like crazy. One of them is mental health. So anything that helps-- whether it's using man or machine or some combination along the spectrum of man and machine to help people improve their mental health, there has been investment in that space like no other.

And it's been specialized. I mean, looking at providing mental health, specifically, for LGBTQ populations or children or any subset of people, women, all the way to being very broad and focused on less acute or lower acuity mental health conditions like anxiety and depression, all the way up to things like helping treat substance abuse disorders. The money has just been just pouring into that space.

And then I would also say that the two others that are hot right now are anything that supports the idea of the digital front door, which I just-- gah-- I'm digital front door-ed out. I'm ready to jump out the side window if I hear digital front door one more time.

But digital front door-type things, so anything that helps navigate patients through the health care system, so a lot of chat bot technology or symptom checker-type things or telehealth components that bring people into the system, whether it's via primary care or maybe it is through mental health to bring people in and then put them through the rest of the health care system and shepherd them on their way.

There just seems to be a lot of money going into that space, and everybody's really gone to great lengths to either buy, build, or acquire these startups that can help build that digital component onto the front end of whatever they're offering, whether it be a health system or a health plan or even in some cases, other digital health companies.

And then the last thing I would say that's gotten a lot of attention this year, on the AI side, is just-- some of these startups that have really come to figure out how to master pulling together different types of data and then using that data to solve common business problems within health care. The two areas where we've seen a lot of this this year have been clinical trials.

So three different companies who have done-- who've raised more than \$100 million over this last past year that are focused specifically on improving the way we do clinical trials by making it easier, faster, to find the right kinds of patients, or to bring in non-clinical data, so data from Fitbits or from other devices that somebody might have in a home. There's just been a lot of money being put into that space to help offset the development of new types of treatments and new types of devices and other clinical interventions.

And the other side of that, too, I see is Olive and Komodo and other startups like that that are focused on using AI to disrupt the way that health care admin is done, which is as unsexy as ever. But there is a lot of money to be saved by offloading health care admin, like routine tasks to an AI that can just do them, without having to have a human involved.

So I feel like there has been a lot of investment in that space, where people are looking at offloading some of the administrative burden and any expense of that-- from a person into technology-- that I can just handle it and make it seamless.

GREG HORNE: Yeah, I agree with you more, actually. I think that people get nervous about AI. They forget about some of those just routine and drudgery tasks that you can just take off and do something different with. Let's pull the thread little bit more on that AI piece.

Let's just think a bit more about how AI is disrupting health care. I've been on a couple of things recently where people have said the AI is not going to replace your doctor any time soon. But the doctor using AI is going to replace the doctor who doesn't very quickly.

So can you talk a little bit about areas you see AI disrupting health care, and do you have any more examples, maybe some more clinical ones?

JESSICA DAMASSA: Oh my gosh. Yeah, so this is really cool, actually. So I think that one of the trends I'm seeing on the patient side is-- well, on the clinical side, I guess-- is how AI is being used predictably. And it's becoming quite ubiquitous.

So, I mean, you have companies like Livongo that uses the data from their blood glucometer and their AI engine to deliver these little health nudges that will help people who are trying to manage their diabetes do it more effectively. So it's basically like they can read on the back end what's going on, and if somebody is in danger, send an alert that will proactively help them from avoiding more of a catastrophic-type incident.

Or there's a company called One Drop, that's also in the chronic conditions space. And they've got 25 billion data points that they're looking at. And they've applied their AI in order to determine these blood glucose predictions and hypertension predictions. And so they're trying to use AI to stop certain events from happening that are more costly.

And so I feel like we're already starting to see that take hold and take hold in a big way and change the way that the doctors are delivering care. And I think on the other side of that, you've got-- the way that AI is working through the business side, like we just talked about, I think that there are doctors who are going to be empowered by understanding that what they're getting from that data. And the reporting on that seems to be getting better and better and actually more relevant to the clinician and their practice than we've seen in the past.

GREG HORNE: And do you have any thoughts on the role of bias? Because you already talked about the idea that mental health is a big area for this. And you talk about subsets of populations. Now, we are also seeing a lot of criticism of AI that it can be more biased than the human intervention. Any thoughts on that piece at all?

JESSICA Oh, that's an interesting question. I've asked that myself sometimes, of some of the folks that I've interviewed.

DAMASSA: And you know what? I do think that is a real concern.

And I do think that-- one of the things that's been interesting about getting to know some of these health tech companies is that they do seem-- I think as much as any other technology company-- to be mindful of trying to build a diverse workforce that is working to develop the technology that will ultimately lead to those algorithms, to that AI, whatever.

But I don't think that anybody has solved for that yet. And I do think that they are trying to be mindful of it, but I definitely believe that this is something that could potentially impact care in the future. But if you think about it-- I mean, this has been a critique of clinical trials in pharma for a very long time, is that most drugs are tested on white men.

And it's like, OK, well, if you're not a white man, if you happen to be a 5' 2" woman or you happen to be not Caucasian but instead are African-American or of Indian descent, there is little to nothing out there, in terms of the clinical trial of an actual pill, how those molecules are going to affect your body in the first place.

So, I mean, I don't think that this is something that should be looked at as, oh my god, the failing of AI because I think there's already similar failings in the health care system in the way that we design medical interventions and pharmaceutical interventions.

GREG HORNE: Yeah, absolutely. I couldn't agree with you more. It's interesting to see how this revolution in AI is going to make things change. Do you see the patient care, physician experience, these things are going to change remarkably. Any particular innovation you think is going to really change that physician patient care experience, do you think?

JESSICA I feel like the sum total of this whole virtual care movement is going to change in the sense that I feel like the pandemic-- and particularly, that focus on those digital front door, virtual care-type startups-- has really legitimized the home as a place of care. And I actually heard that line from the CEO of Amwell-- one of the two largest telehealth companies in the US-- when I interviewed him, Roy Schoenberg. And I thought that really was an excellent point.

And it did. It legitimized the home as a place of care. And so I think we've already started to see this shift. And it's not just with an individual physician patient relationship. But I think the health system as a whole is looking at the home differently than it had been in the past.

So, I mean, even in conversations that are, let's say, a few levels up-- if you were to think about it-- before, a telehealth visit would not be reimbursed at the same rate as an in-office visit. And the pandemic changed that, and there was parity. And in certain cases here, I don't believe that has gone back yet.

So it'll be interesting to see what ends up happening to the business of health care around that. But I feel like it's going to be pretty difficult to make a case, after everybody's been living and working and practicing medicine and receiving medicine-- medical care from home for a whole year and a half. It's going to be pretty difficult to make a case that the reimbursement around that should not be similar, just because of the location of the physician providing that care.

So I think we're already starting to see that shift. And I feel like this is going to be the beginning of people really looking at telehealth, remote patient monitoring, digital health applications, some of the things that really did offload the burden of the health care system when we couldn't actually physically access it.

People are going to be looking at those as less adjacent to the existing health system. But, oh, this is just how our health system is now.

GREG HORNE: Yeah. I'd love to see one thing increase, which is asynchronous health care interactions. I don't see a lot of that, still at the moment. But I think it will come. Particularly, because I may have a question. I don't necessarily need an answer today. But I just would like someone to get back to me on something. And--

JESSICA Right.

DAMASSA:

GREG HORNE: I think we'll see a growth of that. But that's an area where reimbursement really hasn't caught up, either.

JESSICA No, absolutely not. And it's like-- and there are some companies that are trying to undo the way that we're even
DAMASSA: talking about that payment model. I mean, Glen Tullman, who is the founder of Livongo, which was the most successful digital health company of all time, I mean, \$18.5 billion exit, bought by Teladoc.

His new company, Transcarent, is actually looking at redoing the way that benefits are designed. And one of their things, right to your point, is it's like, you shouldn't get charged. If you have a question for a doctor after you've had a surgery, you should not get charged another office visit, a fee, because you have a follow-up question, and you just didn't think of it that time you were there.

So, I mean, the way that we do this is just all mixed up. And I think people are starting to really question it.

GREG HORNE: Yeah, absolutely. So I just have one other question then on this. This is probably the last question I'm going to ask you. So I talk to a lot of startups, myself. And the one thing that always gets me is when someone comes on and says, my idea is unique. Nobody else has thought this startup idea, which it is absolutely not true. Because if you've thought of it, 100 other people have thought of it too.

But if I was a startup person and I was coming out now, and I think I've got a good idea, what kind of advice would you give to somebody about the market, where to go, what to do next? What would be your top tips?

JESSICA Run. Run for the hills. Go get a tech job. Find yourself something to do at Google. No. The thing is, with health
DAMASSA: care, you're absolutely right, Greg. I think it's-- there's-- what is it, there's nothing new, right? But you know what? Nobody's fixed it yet.

So until-- in the states, it's not a \$4 trillion drain on our economy. I think there's plenty of work to be done. And we'll take whatever bright minds we can to get at it.

That said, the thing that I feel like a lot of entrepreneurs who want to enter health care don't get is how the payment model works. And so I would say, before-- if you are a tech entrepreneur and you've got a brilliant idea, or even if you're in health care and you're like this is how-- figure out who is paying for what, because it is not who you think it is.

And in fact, it may not even be a who, but it may be a group of whos. So, I mean, it's very-- that, I think, is the part of the challenge of being a health care entrepreneur that most people underestimate, is figuring out who the buyer is, and then being able to access that buyer. I mean, because there are a lot of entrenched systems. And there's a lot of incentive to not change.

So it is a really difficult area to innovate in, which is why I think in health tech we were so excited we've had such a great year and a half. I mean, because this has been the most traction, the most utilization, the most money, the most interest and attention that we've received in a long, long time. So, yeah, I don't know.

I mean, I always think too, you look at some of the big innovative companies like Google, like Apple, like Amazon, or even some retailers like Walmart or Walgreens or CVS, and they've tried to come into health care myriad times. And they've never been able to do it successfully.

So I don't know if health care is just one of those challenges where it's just, ugh-- I don't know what it will take to change it. But I welcome all those entrepreneurs who want to give it a go.

GREG HORNE: I just-- I couldn't agree more. I've spent time, both within SAS but within other big companies, really trying to hammer home this message that you've got to know who the buyer is. And I think that applies just as much as some of the big multinationals as it does to the startups as well. It's a very confusing market to know who is the buyer and who makes the decision. And you're right, there's still a lot of work to be done in that space.

JESSICA DAMASSA: This is why it's so exciting, Greg. I mean, this is why you've got to talk to everybody and find out what we can do to fix it, because it's broken. And it doesn't work the right way. It's a very miserable experience if you've gone anywhere and been handed a clipboard for the umpteenth time. And you don't feel well, and you're trying to either take care of yourself or someone you love.

I mean, there's a lot of room for improvement. So who better to put at it than a community of innovators, wherever they may come from, big multinational corporation or someone's garage, to just have that change in something that will actually really make an impact on people's lives.

GREG HORNE: Brilliant. I couldn't agree with you more. What a great place to wrap up, as well. Thank you very much, Jessica, for your insights today. And I'm sure our listeners will have a lot to feedback on that subject, particularly around the role of innovation and change and how you get things started in the health care space.

So don't forget, please email us on *The Health Pulse* podcast at sas.com So, again, thank you very much, Jessica, for joining us today. I think that was a really interesting conversation. We will be looking at questions we get as a result of the conversation today and see if we can bring some answers in future episodes.

So all is left for me to say now is thank you for joining me on *The Health Pulse*. I've been your host, Greg Horne. Please like and subscribe to receive future episodes, and we look forward to bringing you more content soon. Thank you.