The Invisible Layer in Patient Monitoring Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and guest background

There we go. There we go. >> Good morning everyone and welcome back >> Good morning everyone and welcome back to Signals and Symptoms podcast. Uh to Signals and Symptoms podcast. Uh today we have an amazing uh position uh today we have an amazing uh position uh guest over here Dr. Naan Patel. He has guest over here Dr. Naan Patel. He has been working on an amazing product which been working on an amazing product which is essentially what we call contactless is essentially what we call contactless vital signal signs through his company vital signal signs through his company called Nera. And uh one of the things called Nera. And uh one of the things that we explore within these podcasts is that we explore within these podcasts is how things in terms of technology in how things in terms of technology in general and more importantly how we're general and more importantly how we're generating quality data that goes into generating quality data that goes into AI and helps physicians through a AI and helps physicians through a clinical decision support system as clinical decision support system as well. Uh Naan is uh here in Dallas. uh well. Uh Naan is uh here in Dallas. uh we met at a conference where we were we met at a conference where we were both speakers or co-speakers and then uh both speakers or co-speakers and then uh he told me about his amazing work and I he told me about his amazing work and I was wanting to explore that he has been was wanting to explore that he has been in healthcare in healthcare uh CIO uh for approximately 30 years. So uh CIO uh for approximately 30 years. So he has a wealth of knowledge that we're he has a wealth of knowledge that we're going to go ahead and explore that. I going to go ahead and explore that. I apologize for a mucky introduction but apologize for a mucky introduction but Nan is going to do a much better job Nan is going to do a much better job than I would. And then lastly, of than I would. And then lastly, of course, very happy to see my besties, course, very happy to see my besties, Harvey Castro, the space man that has Harvey Castro, the space man that has more uh to do with so many things that I more uh to do with so many things that I cannot believe. And Ed, uh, by the way, cannot believe. And Ed, uh, by the way, feel free to uh give your personal feel free to uh give your personal updates, your travels, and everything updates, your travels, and everything because I see a lot of LinkedIn posts because I see a lot of LinkedIn posts from you and I just didn't have time to from you and I just didn't have time to coales that into a proper system. So coales that into a proper system. So before anything, Dr. Mayan Patel, are before anything, Dr. Mayan Patel, are you a doctor? I forget you a doctor? I forget >> I am not a physician. So >> I am not a physician. So >> you're not a physician but >> you're not a physician but >> but when he stays holiday in he is >> but when he stays holiday in he is [laughter] [laughter] [laughter] >> love it. So uh just to remind everyone >> love it. So uh just to remind everyone uh we we do believe now that we need uh uh we we do believe now that we need uh domain expertise from physicians but domain expertise from physicians but honestly in this age of AI honestly in this age of AI implementation integrations of these implementation integrations of these technologies into real world experience technologies into real world experience is the largest bottleneck and uh Naan is the largest bottleneck and uh Naan can speak about his experience through can speak about his experience through it. Of course now he has his own new it. Of course now he has his own new product line which as well so we're product line which as well so we're going to talk all of it with him. So going to talk all of it with him. So without further ado, Nan again I without further ado, Nan again I apologize for a choppy introduction but apologize for a choppy introduction but go ahead and introduce yourself, your go ahead and introduce yourself, your experience, your journey and then Natara experience, your journey and then Natara which of course is mindboggling.

which of course is mindboggling. >> Sure. So my name is Naen Patel and hello >> Sure. So my name is Naen Patel and hello Harvey, hello Ed. Good to see you all Harvey, hello Ed. Good to see you all again. We're we're old friends so we're again.

Nera contactless vitals technology overview

We're we're old friends so we're we're we're longtime acquaintances. we're we're longtime acquaintances. Ed and I particularly go way back. I Ed and I particularly go way back. I think we've shared many conversations think we've shared many conversations together. Yeah, I've been in health care together. Yeah, I've been in health care for a number of years. Um, last 20 have for a number of years. Um, last 20 have been specifically here in the Dallas

been specifically here in the Dallas area with large health care systems like area with large health care systems like Baylor Scott and White. I was running Baylor Scott and White. I was running two of their heart hospitals from a CIO two of their heart hospitals from a CIO standpoint. Uh, since then I've done standpoint. Uh, since then I've done some interim work um interim IT some interim work um interim IT leadership, interim CIO work, working at leadership, interim CIO work, working at hospitals like Baptist Health in hospitals like Baptist Health in Jacksonville, South Texas hospital as Jacksonville, South Texas hospital as well as a central Georgia hospital in a well as a central Georgia hospital in a rural Georgia. So I've had what I call rural Georgia. So I've had what I call large hospital experience, medium large hospital experience, medium hospital experience as well as hospital experience as well as individual small rural hospital individual small rural hospital experience and that has given me experience and that has given me exposure to you know many of the exposure to you know many of the challenges that we face in our health challenges that we face in our health care system.

care system. There are certainly many things that we There are certainly many things that we can talk about but um the the key thing can talk about but um the the key thing that I think I'll point out today is that I think I'll point out today is there is no right answer to everything there is no right answer to everything and we live in a very complicated world and we live in a very complicated world of health care. So you know our of health care. So you know our organizations of health care many of organizations of health care many of them have thousands of applications.

them have thousands of applications. They're big enterprise systems, right? They're big enterprise systems, right? And so these things are um even in the And so these things are um even in the smallest hospital have hundreds of smallest hospital have hundreds of applications and we're dealing with applications and we're dealing with hundreds of vendors, multiple cloud hundreds of vendors, multiple cloud vendors as well. We're dealing with you vendors as well. We're dealing with you know different type of security know different type of security challenges that we have and security challenges that we have and security things that happen even multiple times things that happen even multiple times at the same time without not necessarily at the same time without not necessarily looking at it. And then you have AI looking at it. And then you have AI that's being put on top of all of this, that's being put on top of all of this, right? So, you know, we're all trying to right? So, you know, we're all trying to improve health care, but at the same improve health care, but at the same time keep it safe. So, that's a time keep it safe. So, that's a challenge for us. And when I say improve challenge for us. And when I say improve healthcare, and you know, my tagline is healthcare, and you know, my tagline is about improving lives with data, right?

about improving lives with data, right? And so, that's where I'm at now. So, And so, that's where I'm at now. So, earlier this year, back in January, I earlier this year, back in January, I joined Natira.

joined Natira. Nira makes a contactless vitals Nira makes a contactless vitals monitoring system. And what uh what it monitoring system. And what uh what it looks like is this device here. You looks like is this device here. You might be able to kind of see it. It's no might be able to kind of see it. It's no bigger than a deck of cards. And bigger than a deck of cards. And essentially, it's radar. It's high high essentially, it's radar. It's high high frequency radar. It's a motion sensor.

frequency radar. It's a motion sensor. >> And it uses fixed radar technology. I >> And it uses fixed radar technology. I have one actually pointed at me right have one actually pointed at me right now uh on a tripod. So, it is monitoring now uh on a tripod. So, it is monitoring my heart rate, my respiratory rate, my heart rate, my respiratory rate, inhaling.

inhaling. inhaling. >> Where's my device? You know, I'm just >> Where's my device? You know, I'm just just just just >> And it's it's clinical grade by the way.

>> And it's it's clinical grade by the way. So just a huge difference between Apple So just a huge difference between Apple watch and Google fit. Harvey you need to watch and Google fit. Harvey you need to show your rings and everything as well.

show your rings and everything as well. Huge difference between consumer uh oh Huge difference between consumer uh oh you have uh you know so as compared to you have uh you know so as compared to that so

distinguish that for the for the that so distinguish that for the for the for the audience as well that what is for the audience as well that what is clinical grade versus uh consumer grade clinical grade versus uh consumer grade means.

means. means. >> Yeah. So you know we are relying on >> Yeah. So you know we are relying on actions that clinical staff will be actions that clinical staff will be taking. So we have to get FDA class 2 taking. So we have to get FDA class 2 cleared for this medical device. This is cleared for this medical device. This is not something that you can just start not something that you can just start reporting data without it being you know reporting data without it being you know having certain level of qualifications.

having certain level of qualifications. So yeah it's uh you know one of the So yeah it's uh you know one of the things that we try to explain to people things that we try to explain to people how does this technology work? I how does this technology work? I actually call it the early versions of a actually call it the early versions of a Star Trek triquarter. I mean we're Star Trek triquarter. I mean we're literally pointing something at you.

literally pointing something at you. You're not wearing anything. You're You're not wearing anything. You're there's nothing to charge. there's there's nothing to charge. there's nothing to, you know, even um clean in nothing to, you know, even um clean in that sense. Once the device is there, that sense. Once the device is there, it's monitoring people within the range.

it's monitoring people within the range. Essentially, it's think of it as a Essentially, it's think of it as a flashlight or a cone going out 30° and 8 flashlight or a cone going out 30° and 8 ft. And if you're in that range, we're ft. And if you're in that range, we're going to detect your these um feature going to detect your these um feature the the vitals that we talked about. It the the vitals that we talked about. It detects them by micro movement on your detects them by micro movement on your skin. So every human body is electrical skin. So every human body is electrical and mechanical and we essentially map an and mechanical and we essentially map an ECG to a BCG. So everybody knows what an ECG to a BCG. So everybody knows what an ECG is. A BCG is a ballista cardioraph ECG is. A BCG is a ballista cardioraph and essentially we are micro tracking and essentially we are micro tracking those micro movements on your skin those micro movements on your skin through your chest and basically it goes through your chest and basically it goes through clothing and bedding as well and through clothing and bedding as well and that's how we are able to map that and that's how we are able to map that and accurately track heart rate respiratory accurately track heart rate respiratory rate inhale exhale ratio and sleep and rate inhale exhale ratio and sleep and motion data. So, it's I think what it motion data.

Clinical use cases and ED monitoring

So, it's I think what it really comes down to is this is one more really comes down to is this is one more thing that we're trying to do to improve thing that we're trying to do to improve health care to reduce the nursing um health care to reduce the nursing um burden that's happening. They don't have burden that's happening. They don't have to now manually check vitals. We can do to now manually check vitals. We can do this and it helps the patients too this and it helps the patients too because they're not wearing anything.

because they're not wearing anything. Let me pause there. I know I said quite Let me pause there. I know I said quite a bit there. a bit there. >> You did amazing work in introductions >> You did amazing work in introductions and I have so many questions including and I have so many questions including how do you compare with so many how do you compare with so many different and we're going to get come to different and we're going to get come to it. uh but before I do I want you to it. uh but before I do I want you to also more importantly for our audience also more importantly for our audience uh explore more on the use cases uh uh explore more on the use cases uh specifically I'm an ICU physician and specifically I'm an ICU physician and vital monitoring is an annoying issue vital monitoring is an annoying issue and then uh Harvey is an ex uh emergency and then uh Harvey is an ex uh emergency uh medicine physician uh and then u you uh medicine physician uh and then u you talked about nursing workload but uh for talked about nursing workload but uh for me of course vital monitoring is me of course vital monitoring is extremely important subnoid hemorrhage extremely important subnoid hemorrhage you know I need to keep the blood you know I need to keep the blood pressure between this and this. So same pressure between this and this. So same thing with the ED you know pulse thing with the ED you know pulse oxometer for a

you know person coming oxometer for a you know person coming with severe pneumonia intubate no with severe pneumonia intubate no intubate uh sort of make it more useful intubate uh sort of make it more useful for me and then of course go back to for me and then of course go back to actually an ICU nurse an ED nurse and actually an ICU nurse an ED nurse and how exactly your technology is going to how exactly your technology is going to improve their workflow uh in and then of improve their workflow uh in and then of course we'll move to Harvey. Yeah. So, I course we'll move to Harvey. Yeah. So, I think in the emergency medicine case, think in the emergency medicine case, you know, I'd love to say we have blood you know, I'd love to say we have blood pressure. We we're not FDA cleared for pressure. We we're not FDA cleared for that yet. We're trying to work with a that yet. We're trying to work with a couple of hospital systems right now and couple of hospital systems right now and do a an efficacy study so that we can do do a an efficacy study so that we can do that um and get that also in there, but that um and get that also in there, but we are not there. We're probably another we are not there. We're probably another one to two years out from that.

one to two years out from that. >> So, for a software, so for a physical >> So, for a software, so for a physical device or SMD, you just need to show device or SMD, you just need to show non-inferiority, non-inferiority, non-inferiority, correct? Nothing more than that. Is is correct? Nothing more than that. Is is that my assumption correct?

that my assumption correct? >> Yeah, I mean I think what we're trying >> Yeah, I mean I think what we're trying to do is we're trying to identify trends to do is we're trying to identify trends in something that's happening to some a in something that's happening to some a body and in the case of emergency body and in the case of emergency medicine the specific use case that we medicine the specific use case that we are deploying actually this this next are deploying actually this this next month is in an ED itself. So we've month is in an ED itself. So we've installed our device into ED waiting installed our device into ED waiting room chairs and so this is pretty cool.

room chairs and so this is pretty cool. So in the in those cases, we're actually So in the in those cases, we're actually instead of 8ft window when it's instead of 8ft window when it's installed in the chair, it's going 2 to installed in the chair, it's going 2 to 8 in of whoever's sitting in that chair.

8 in of whoever's sitting in that chair. And so And so the typical use cases, and hopefully the typical use cases, and hopefully some of you have seen the pit, you know, some of you have seen the pit, you know, and if you ever watch the pit, you you and if you ever watch the pit, you you the use cases, there's several use cases the use cases, there's several use cases that are technology related in that that are technology related in that show, and they're going to drive the show, and they're going to drive the influence of technology for sure. But influence of technology for sure. But one of the specific use cases is one of the specific use cases is somebody passes away in the ED right somebody passes away in the ED right while they're waiting. And so while they're waiting. And so >> one hospital approached us specifically >> one hospital approached us specifically and said, "Hey, could your technology and said, "Hey, could your technology help us with this type of situation and help us with this type of situation and that's how this use case got created. So that's how this use case got created. So we put this device in the chair. We got we put this device in the chair. We got a medical furniture manufacturer to you a medical furniture manufacturer to you know build it out, configure it and now know build it out, configure it and now we have these chairs available. And the we have these chairs available. And the goal is that if a patient is in the four goal is that if a patient is in the four walls of any hospital health care walls of any hospital health care system, they feel that they're system, they feel that they're responsible for that body, right? And so responsible for that body, right? And so we are working through the logistics on we are working through the logistics on the workflow and the notifications, the workflow and the notifications, but essentially if there's somebody but essentially if there's somebody sitting in a chair now and we see their sitting in a chair now and we see their heart rate drop below 50, below 40, you heart rate drop below 50, below 40, you know, whatever, you know, something that know, whatever, you know, something that says, "Hey, something's happening to says, "Hey, something's happening to that person's body." We can send an that person's body." We can send an alert to whoever the the nearest nurse alert to whoever the the nearest nurse or nurse call system that's there to, or nurse call system that's there to, you know, basically escalate a you know, basically escalate a situation, say somebody in that chair situation, say somebody in that chair needs attention. We can't, you know, we needs attention. We can't, you know, we don't have a lot of specific. That's don't have a lot of specific. That's when they'll put real telemetry on that when they'll put real telemetry on that person or get that person addressed person or get that person addressed right away instead of somebody sitting right away instead of somebody sitting there for a long time and you didn't there for a long time

and you didn't know an adverse event happened. So know an adverse event happened. So that's the specific use case really the that's the specific use case really the ED that we're able to passively monitor ED that we're able to passively monitor somebody and they don't even know somebody and they don't even know they're being monitored in that sense.

they're being monitored in that sense. Um but we would let them know that we Um but we would let them know that we are watching you or something to that are watching you or something to that effect. So we're working through the effect. So we're working through the healthc care organization.

healthc care organization. Um and once we get it deported we'll Um and once we get it deported we'll >> Amazing amazing work. Um I'm going to >> Amazing amazing work. Um I'm going to start with um Harvey first. Uh Hari, start with um Harvey first. Uh Hari, what are your thoughts? Uh questions and what are your thoughts? Uh questions and then we move to Ed.

then we move to Ed. >> Yeah, number one, I guess the FDA will >> Yeah, number one, I guess the FDA will obviously do that. I'm I'm curious how obviously do that. I'm I'm curious how much of within margin of error are the much of within margin of error are the ranges of the heart rate of all the ranges of the heart rate of all the parameters you're taking. You know, I'm parameters you're taking. You know, I'm just curious.

just curious. >> Yeah. So we we actually monitor we'd >> Yeah. So we we actually monitor we'd collect the data every second and then collect the data every second and then we trend it and we have a dashboard that we trend it and we have a dashboard that we report it every five minutes to show we report it every five minutes to show kind of where your heart rate is at.

kind of where your heart rate is at. It's a 95% accuracy right now and it's It's a 95% accuracy right now and it's going to be higher than that once you're going to be higher than that once you're trending it. Right? So you know if trending it. Right? So you know if you're getting at 95% you know in 1 you're getting at 95% you know in 1 minute or 5 minutes you can imagine the minute or 5 minutes you can imagine the number of data points we collect number of data points we collect thousands of data points that are you thousands of data points that are you know because you could we can detect know because you could we can detect your heart rate as an example through your heart rate as an example through your hand through your leg as well as your hand through your leg as well as your chest cavity it's you know there your chest cavity it's you know there are many things that give us that data are many things that give us that data and so we're correlating all this data and so we're correlating all this data you know and it's collecting it I you know and it's collecting it I mentioned mentioned to you that I have mentioned mentioned to you that I have the device on a tripod for testing the device on a tripod for testing purposes and I monitor myself and I had purposes and I monitor myself and I had it next to my bed as well and I it next to my bed as well and I positioned the cone so that it just positioned the cone so that it just monitored where I was sleeping versus monitored where I was sleeping versus you know a second p person like my wife you know a second p person like my wife but it only picks me up because of the but it only picks me up because of the way I positioned it and during the way I positioned it and during the evening it's collecting roughly 42 to evening it's collecting roughly 42 to 45,000 data points every night for that 45,000 data points every night for that 8 hour 9h hour period that I'm there and 8 hour 9h hour period that I'm there and so that's the type of data that we're so that's the type of data that we're collecting and then that's when we are collecting and then that's when we are able to present the heart rate inhale able to present the heart rate inhale exhale ratio respiratory rate is exhale ratio respiratory rate is probably the biggest one because what probably the biggest one because what we're able to see is how there's a we're able to see is how there's a strong correlation between respiratory strong correlation between respiratory rate and pulse ox and you know that's uh rate and pulse ox and you know that's uh something that is and now there's a something that is and now there's a correlation between that and blood correlation between that and blood pressure as well like that is pressure as well like that is respiratory rate is a big signal respiratory rate is a big signal indicator of what you know somebody indicator of what you know somebody needs attention. So needs attention. So there's a lot of data being collected.

there's a lot of data being collected. So on the order it's probably 100,000 So on the order it's probably 100,000 data points per day is what it'd be data points per day is what it'd be collecting. But then what do we need to collecting. But then what do we need to present? What are we really trying to present? What are we really trying to

do? And I think one of the biggest do? And I think one of the biggest challenges is we don't want too many challenges is we don't want too many alerts, right? You got already too many alerts, right? You got already too many bells and whistles happening in an bells and whistles happening in an environment. What's really important? So environment. What's really important? So >> we can talk about >> we can talk about >> especially what the term industry term >> especially what the term industry term is alarm fatigue.

is alarm fatigue. >> Yeah. So >> Yeah. So far actually good Ed before I jump on to far actually good Ed before I jump on to you and your question I want to give you you and your question I want to give you the audience and you a little bit of the audience and you a little bit of clinical sort of background. So there's clinical sort of background. So there's a book called ICU John Moreno which is a book called ICU John Moreno which is considered bible of ICU and then one of considered bible of ICU and then one of the lines in that is that of all the the lines in that is that of all the things we do in healthcare blood things we do in healthcare blood pressure is the least um accurate and pressure is the least um accurate and you will not believe like how crazy it you will not believe like how crazy it is because I we do we used to do blood is because I we do we used to do blood pressure through manual cuff then there pressure through manual cuff then there is automation blood pressure cuff then is automation blood pressure cuff then there is art line and now of course your there is art line and now of course your solutions which including some of these solutions which including some of these solutions that are coming so blood solutions that are coming so blood pressure is always been a problem. And pressure is always been a problem. And then of course vitals in general is then of course vitals in general is extremely important and then you need to extremely important and then you need to figure out the trend because the trend figure out the trend because the trend is more important than that. Just to is more important than that. Just to remind you people that we had a study on remind you people that we had a study on sepsis uh of course co data really you sepsis uh of course co data really you know freaked out but clinical decision know freaked out but clinical decision support system modules were released. I support system modules were released. I was able to detect uh 15 minutes early was able to detect uh 15 minutes early which is insane that I can actually give which is insane that I can actually give them a fluid ballers. I can give them uh them a fluid ballers. I can give them uh you know um flute ballers, art lines, you know um flute ballers, art lines, intubations etc. So 15minute window was intubations etc. So 15minute window was huge. I mean I can actually literally huge. I mean I can actually literally you know support everything because of you know support everything because of the trending. So vitals are that the trending. So vitals are that important as far as this is concerned.

important as far as this is concerned. Even just to give you another clinical Even just to give you another clinical data point you can have a person who data point you can have a person who does not require intubations but if the does not require intubations but if the trend is actually getting worse in terms trend is actually getting worse in terms of respiratory rate and neothoric if you of respiratory rate and neothoric if you give antibiotic 1 hour early you give antibiotic 1 hour early you decrease the rate of admission in a decrease the rate of admission in a hospital by 30%. You decrease the rate hospital by 30%. You decrease the rate of ICU admission by 10% you decrease the of ICU admission by 10% you decrease the rate of death by 1%. So again I just rate of death by 1%. So again I just want to make sure that everyone want to make sure that everyone understand clinically that how important understand clinically that how important vital monitoring is and now I want to vital monitoring is and now I want to tell you the problem statement. The tell you the problem statement. The problem statement is that the patient is problem statement is that the patient is insphylopathic. He's just disoriented insphylopathic. He's just disoriented takes out the blood pressure cuff. How takes out the blood pressure cuff. How many times can a nurse log walk in and many times can a nurse log walk in and put the blood pressure cup. Then the put the blood pressure cup. Then the nurse has to come in to make sure that nurse has to come in to make sure that the pulse ox meter which is such a the pulse ox meter which is such a garbage issue. No matter how many times garbage issue. No matter how many times it always slips away. Uh and then so now it always slips away. Uh and then so now that's the problem statement that we do that's the problem statement that we do need what his technology means. You know need what his technology means.

Accuracy, trends, and workflow integration

You know 8 in or 8 somewhere between 8 in to 8 ft 8 in or 8 somewhere between 8 in to 8 ft away to be able to trend for me. So now away to be able to trend for me. So now you understand the the problem you understand the the problem statements that we have. So I just want statements that we have. So I just want everyone to understand that why I'm everyone to understand that why I'm excited about what Naan is doing and uh excited

about what Naan is doing and uh just having said that just giving you just having said that just giving you the clinical picture. Ed, on to you.

the clinical picture. Ed, on to you. >> No, that that really makes the the point >> No, that that really makes the the point and the purpose even more more clear and and the purpose even more more clear and why this is a great solution. And N I why this is a great solution. And N I also put in the comments for everyone.

also put in the comments for everyone. Nan's LinkedIn profile because he he Nan's LinkedIn profile because he he produces a blog. It's pretty much every produces a blog. It's pretty much every Friday, right? You're dropping once a Friday, right? You're dropping once a week.

week. week. >> Every other Friday. >> Every other Friday. >> Every other Friday. It's called The >> Every other Friday. It's called The Glass is Full. It's really good. Yeah.

Glass is Full. It's really good. Yeah. um you should definitely follow and uh um you should definitely follow and uh check out good good food for thought on check out good good food for thought on on a Friday. So yeah, why why not? So I on a Friday. So yeah, why why not? So I love it, right? And to your point love it, right? And to your point earlier from a tech point of view or earlier from a tech point of view or administrative point of view, you can administrative point of view, you can save a lot of money because you're save a lot of money because you're consolidating a lot of point solutions consolidating a lot of point solutions into one and you're continuously into one and you're continuously expanding it. Why not consumer?

expanding it. Why not consumer? like like like >> we we we we're ready home health is the >> we we we we're ready home health is the next target market everybody asked me next target market everybody asked me and I had the same question honestly and I had the same question honestly when I was going through the interview when I was going through the interview process I said hey can I use this for my process I said hey can I use this for my mother-in-law right she she's in an mother-in-law right she she's in an apartment by herself senior living she's apartment by herself senior living she's not uh in assisted care or any kind of not uh in assisted care or any kind of real monitoring right so and she didn't real monitoring right so and she didn't want a camera in her house so that's the want a camera in her house so that's the best thing about this thing there's no best thing about this thing there's no privacy issues with this thing too privacy issues with this thing too there's data. You know, there's no there's data. You know, there's no visual or audio data being collected of visual or audio data being collected of any kind. And so, yeah, home health is any kind. And so, yeah, home health is definitely a big target market for us.

definitely a big target market for us. We need to do more studies with how to We need to do more studies with how to get it deployed. So, we are doing a get it deployed. So, we are doing a pilot with um a large health care system pilot with um a large health care system that does oncology and hematology that does oncology and hematology patients that they're send we're sending patients that they're send we're sending they're sending 30 patients home with they're sending 30 patients home with our device. And so again, part of that our device. And so again, part of that is to validate how that would look in a is to validate how that would look in a home environment. And as I mentioned to home environment. And as I mentioned to you that I have it on a tripod, that's you that I have it on a tripod, that's what we're sending it to them on a what we're sending it to them on a patient with putting it on a tripod. And patient with putting it on a tripod. And it doesn't require anything except USB C it doesn't require anything except USB C for power. So it's only power and then for power. So it's only power and then everything else is through Wi-Fi or in everything else is through Wi-Fi or in the case what we're doing this um with the case what we're doing this um with the uh the home health patients is the uh the home health patients is putting it a hot spot connected to it.

putting it a hot spot connected to it. So, it's all pro pre-programmed and you So, it's all pro pre-programmed and you just put it in and it's just got to be just put it in and it's just got to be positioned that you're in that ice cream positioned that you're in that ice cream window, a flashlight window of eight window, a flashlight window of eight feet, right? And so, there's more feet, right? And so, there's more testing required and validation before testing required and validation before we deploy it to a home health market we deploy it to a home health market because there's there's a lot more because there's there's a lot more logistics and coordination to figure out logistics and coordination to figure out when you're trying to put it in the home when you're trying to put it in the home market.

But definitely that's a longterm market. But definitely that's a longterm plan for us in the next few years.

plan for us in the next few years. >> Yeah, because I know you deal with it, >> Yeah, because I know you deal with it, Jana deals with it. You know, we all Jana deals with it. You know, we all have relatives like over in India or have relatives like over in India or Pakistan and we're the physicians, Pakistan and we're the physicians, right? Sim is the clinician for right? Sim is the clinician for thousands of people in these remote thousands of people in these remote villages and it's kind of hard, right?

villages and it's kind of hard, right? You don't have a lot of data, but You don't have a lot of data, but imagine if they all had access to this imagine if they all had access to this sensor. You know, it would change the sensor. You know, it would change the game and she could be much more precise game and she could be much more precise in providing sort of medical advice. And in providing sort of medical advice. And obviously that that's a very small use obviously that that's a very small use case, but you could extrap we could all case, but you could extrap we could all extrapolate what that would mean. It's a extrapolate what that would mean. It's a huge use case because everyone I talk to huge use case because everyone I talk to talks about, you know, managing elderly talks about, you know, managing elderly parents or uncles or relatives of or parents or uncles or relatives of or friends even. And in the case, you know, friends even. And in the case, you know, my mother-in-law lives about 25 minutes my mother-in-law lives about 25 minutes away, 20 or 25 minutes. It'd be nice.

away, 20 or 25 minutes. It'd be nice. And out of the gate, there's no And out of the gate, there's no programming required. We have texting programming required. We have texting and email notifications just built in to and email notifications just built in to the dashboard. So, all you got to do is the dashboard. So, all you got to do is just set up your phone number and email.

just set up your phone number and email. That's it. I had to turn off my texting That's it. I had to turn off my texting because every time I got out of the because every time I got out of the range and we also get a what we call a range and we also get a what we call a bed exit notification. So like okay it bed exit notification. So like okay it doesn't need to tell me every time I get doesn't need to tell me every time I get out of the range but I do still I kept out of the range but I do still I kept the email enabled so I know that it's the email enabled so I know that it's working right.

working right. >> Yeah. And um so yeah, there's the big >> Yeah. And um so yeah, there's the big thing though for me is not so much I thing though for me is not so much I [snorts] want to track my [snorts] want to track my mother-in-law's movement, but if her mother-in-law's movement, but if her heart rate goes below a certain amount heart rate goes below a certain amount or above a certain amount and there's a or above a certain amount and there's a trending threshold. I think Jana, you trending threshold. I think Jana, you mentioned, you know, being able to see mentioned, you know, being able to see trending through time. So we can set it trending through time. So we can set it up that, you know, within an hour if up that, you know, within an hour if your heart rate average dropped 10%.

your heart rate average dropped 10%. Okay, there's probably something Okay, there's probably something happening to you, you know, or make happening to you, you know, or make maybe it's 15% or 20%, whatever the maybe it's 15% or 20%, whatever the right variable is, that's where we rely right variable is, that's where we rely on you to tell us what threshold you on you to tell us what threshold you want to set and then we can set send want to set and then we can set send those alerts and they can go to those alerts and they can go to whomever. So, that's where clinicians whomever. So, that's where clinicians really appreciate it because they're really appreciate it because they're only getting alerts on what they define only getting alerts on what they define as critical or important.

as critical or important. >> Again, I just want to clarify a few >> Again, I just want to clarify a few things. Um I mean we can do pulse ox things. Um I mean we can do pulse ox heart rate monitoring here but just want heart rate monitoring here but just want to be very careful they have aphib to be very careful they have aphib monitoring which is a big big issue for monitoring which is a big big issue for you know big belly genetics like mine you know big belly genetics like mine coming from India, Pakistan and Nepal coming from India, Pakistan and Nepal the s countries. Uh the difference is the s countries. Uh the difference is that the number one I cannot sleep with that the number one I cannot sleep with an Apple watch. Uh that's why I got this an Apple watch. Uh that's why I got this

which I can't sleep with it either. I which I can't sleep with it either. I just I just can't and then so we need just I just can't and then so we need something that is not touching my body something that is not touching my body overnight and that's extremely important overnight and that's extremely important not to mention that one a case uh not to mention that one a case uh detected out of a 100 we can now treat detected out of a 100 we can now treat it with a medication called a pixaban it with a medication called a pixaban which is actually equivalent to an which is actually equivalent to an aspirin. So long story short, you have a aspirin. So long story short, you have a proper pathway moving forward of proper pathway moving forward of detecting it and not to mention of detecting it and not to mention of course that overall cost if the patient course that overall cost if the patient gets a stroke or a cardiac myopathy or gets a stroke or a cardiac myopathy or anything millions of dollars downstream anything millions of dollars downstream can be saved by early detection not to can be saved by early detection not to mention and then not only that this is mention and then not only that this is of course again more clinically grade FD of course again more clinically grade FD approved etc. uh and we are moving from approved etc. uh and we are moving from what we call screening devices which what we call screening devices which could be these to verification devices could be these to verification devices which I already do quote unquote which I already do quote unquote prescribe a halter monitor or you know prescribe a halter monitor or you know implantable lube recorders I don't know implantable lube recorders I don't know what's going to happen to that so but what's going to happen to that so but long story short then we are coming to long story short then we are coming to the next phase of it is essentially the next phase of it is essentially continuous monitoring so again continuous monitoring so again clarifying the use cases in terms of clarifying the use cases in terms of clinicians and as Ed said uh clinicians and as Ed said uh commercialization of this as a wellness commercialization of this as a wellness device and not just as a health tech device and not just as a health tech device is kind of important. I have one device is kind of important. I have one question but before I ask Harvey, do you question but before I ask Harvey, do you have something in your mind?

have something in your mind? >> No, there's so much. This is great. Uh >> No, there's so much. This is great. Uh my cur curiosity because I've been my cur curiosity because I've been helping some companies with this is what helping some companies with this is what do you think of the competition? I know do you think of the competition? I know the space is huge. Um what do you think the space is huge. Um what do you think of other companies that are further of other companies that are further along than you guys?

along than you guys? So, there's certain companies that have So, there's certain companies that have been trying to figure out a good been trying to figure out a good solution for this and and including solution for this and and including where they've got, I'll call it pads or where they've got, I'll call it pads or sensors that they put in the beds, you sensors that they put in the beds, you know, and the reality is the accuracy of know, and the reality is the accuracy of ours is so much better than theirs. And ours is so much better than theirs. And there's one particular company that's there's one particular company that's been, you know, ahead of us in terms of been, you know, ahead of us in terms of marketing. But good good thing for us is marketing. But good good thing for us is they're failing and then their customers they're failing and then their customers are coming to us. So that's we're just are coming to us. So that's we're just going to let that ride out however it going to let that ride out however it does, you know, uh because the accuracy does, you know, uh because the accuracy of our data is very good and we're of our data is very good and we're picking the right approach with the picking the right approach with the right clinical use cases. One of the right clinical use cases. One of the challenges also you have with the ones challenges also you have with the ones that are in the bed, again, it doesn't that are in the bed, again, it doesn't require anything to wear, but you do require anything to wear, but you do have to clean that device. It move it's have to clean that device. It move it's moving around, right? There's some moving around, right? There's some different challenges there. And ours is different challenges there. And ours is a fixed device. typically in uh patient a fixed device. typically in uh patient rooms or like in long-term care rooms or like in long-term care facilities. We've got over 40,000 facilities. We've got over 40,000 devices deployed in long long-term care devices deployed in long long-term care facilities or skilled nursing facilities facilities or skilled nursing facilities or sniffs, right? And in those, it's or sniffs, right? And in those, it's just a fixed radar. We mount it behind just a fixed radar. We mount it behind the on the wall behind the patient's the on the wall behind the patient's bed. And so, because it's not attached, bed. And so, because it's not attached, there's nothing to clean, nothing to there's nothing to clean, nothing to wear, and it's always wired on. It's not wear, and it's always wired on. It's not battery operated. It's specifically battery operated. It's specifically designed for ease of use in that sense.

designed for ease of use in that sense. So there are other competitors in the So there are other competitors in the

market, but none that work like what we market, but none that work like what we do. And one thing I did fail to mention do. And one thing I did fail to mention is how did we come up here? How did we is how did we come up here? How did we get here? The the technology is based on get here? The the technology is based on what you've probably already sensed with what you've probably already sensed with uh autonomous uh cars, right? So uh autonomous uh cars, right? So detecting motion with cars and you know detecting motion with cars and you know being able to you know you see all the being able to you know you see all the self-driving cars that are out there self-driving cars that are out there that radar technology is what led to that radar technology is what led to this where we fine-tuned it to get that this where we fine-tuned it to get that >> Amazing. [snorts] >> Amazing. [snorts] So here here's my question. So now we So here here's my question. So now we this is a real problem to solve and then this is a real problem to solve and then I don't believe in one technology and I I don't believe in one technology and I do believe in backups as well.

do believe in backups as well. >> Yeah. um whenever I have an ART line and >> Yeah. um whenever I have an ART line and the nurses will take out the blood the nurses will take out the blood pressure cuff and I said what the what pressure cuff and I said what the what the hell are you doing? You still need a the hell are you doing? You still need a blood pressure cuff because artline can blood pressure cuff because artline can fail fail fail massive issues. We are looking at this massive issues. We are looking at this and artline is actually showing uh real and artline is actually showing uh real blood pressures which are fake blood pressures which are fake apparently sometimes. So we just need to apparently sometimes. So we just need to understand exactly how these things understand exactly how these things proceed in terms of uh this. So from a proceed in terms of uh this. So from a technology perspective we have the technology perspective we have the spectrum. The spectrum is the the spectrum. The spectrum is the the general pulse oxometry, the green light general pulse oxometry, the green light that shows up. Then we have uh the heart that shows up. Then we have uh the heart rate monitors which are both EKG and rate monitors which are both EKG and then you have now ultrasounds that are then you have now ultrasounds that are coming which again we can talk about coming which again we can talk about this and then lastly you use the word this and then lastly you use the word radar technology. Now from a pure radar technology. Now from a pure technological perspective and I technological perspective and I understand that all of these are going understand that all of these are going to mature but as more and more data to mature but as more and more data comes the AI uh analysis also improves.

comes the AI uh analysis also improves. The real thing that we need again I just The real thing that we need again I just want to remind everyone that I if the want to remind everyone that I if the blood pressure is low 90 over 60 there blood pressure is low 90 over 60 there are athletes who are running including are athletes who are running including Ed probably his blood pressure lows low Ed probably his blood pressure lows low and he's cycling the whole world while and he's cycling the whole world while my blood pressure goes low to to Ed's my blood pressure goes low to to Ed's blood pressure I'm going to faint so the blood pressure I'm going to faint so the question of the absolute numbers is question of the absolute numbers is completely off the whole point is completely off the whole point is trending and that's where the AI comes trending and that's where the AI comes in so question number one um I in so question number one um I understand the contactless part explain understand the contactless part explain a little more about this radar thing not a little more about this radar thing not not doubles into intellectual property not doubles into intellectual property uh but understand people can understand uh but understand people can understand why it is important in terms of moving why it is important in terms of moving through the clothes as well because through the clothes as well because that's sort of kind of important that's sort of kind of important especially for my population which are especially for my population which are demented paralyzed you know neurology demented paralyzed you know neurology patients as well uh then go to the patients as well uh then go to the second part the radar part then do do we second part the radar part then do do we enhance it or do we have a pathway for enhance it or do we have a pathway for your company to enhance the data from your company to enhance the data from let's say Apple watch and use that to let's say Apple watch and use that to correlate and improve and then the third correlate and improve and then the third path and the final path is that how do path and the final path is that how do you see this u being deployed in an in you see this u being deployed in an in in we talked about consumer and ED but in we talked about consumer and ED but how do you see this in currently how do you see this in currently deployed in in the hospital systems uh deployed in in the hospital systems uh augmenting their current massive Philips augmenting their current massive Philips Semens all of this and how do you push Semens all of this and how do you push that information in as well rather than that information in as well rather than just a another dashboard for me to just a another dashboard for me to review. Do you understand what

the review. Do you understand what the problem is?

problem is? >> And I'm I'm you know I already have >> And I'm I'm you know I already have freaking alarm for you. I'm not going to freaking alarm for you. I'm not going to like oh my god now I have to check like oh my god now I have to check another system.

another system. >> Yeah. >> Yeah. >> Yeah. >> Let me address the last one for you >> Let me address the last one for you first because as a a CIO [snorts] for first because as a a CIO [snorts] for hospitals that's the first thing that hospitals that's the first thing that you know I said listen our dashboard is you know I said listen our dashboard is great. You need it for setup, but beyond great. You need it for setup, but beyond that, that's it. The rest should be the that, that's it. The rest should be the alerting communication should be what alerting communication should be what whatever the system currently uses, a whatever the system currently uses, a nurse call system of some sort, right?

nurse call system of some sort, right?

Competition, home health, and future applications

Most things are using some version of Most things are using some version of raw and responder 5 or whatever it might raw and responder 5 or whatever it might be. There's already systems that are be. There's already systems that are being used. There's the the devices that being used. There's the the devices that the nurses all hold too, right? The the the nurses all hold too, right? The the Beras or the Spectral Links, you know, Beras or the Spectral Links, you know, the Zebra phones. So use what's already the Zebra phones. So use what's already there and all we need to do is send an there and all we need to do is send an alert to the existing systems. We have alert to the existing systems. We have HL7 feeds already capable, right? 2.3 HL7 feeds already capable, right? 2.3 2.5. We're working on that fire 2.5. We're working on that fire integration as well. So we already are integration as well. So we already are able to receive from whatever EMR that's able to receive from whatever EMR that's in place, but we definitely don't want in place, but we definitely don't want another pathway or another item that has another pathway or another item that has to go look at. Right? So I think that's to go look at. Right? So I think that's the first thing that I would say you the first thing that I would say you know minimize you know one more system know minimize you know one more system now yes we're adding another system in now yes we're adding another system in the environment but that doesn't help the environment but that doesn't help you in terms of the clinical workflow you in terms of the clinical workflow and the fatigue that's associated with and the fatigue that's associated with it. So that's the first thing I would it. So that's the first thing I would say say say your first question then I'm trying to your first question then I'm trying to go back now what was the first question go back now what was the first question was was was >> so so the the the technology of pulse >> so so the the the technology of pulse where you know EKGs and then now radar where you know EKGs and then now radar and then also comment as as an expert in and then also comment as as an expert in the field about homebased ultrasound or the field about homebased ultrasound or even continuous ultrasound monitoring in even continuous ultrasound monitoring in the future potentially.

the future potentially. >> Yeah. So I mean we definitely are trying >> Yeah. So I mean we definitely are trying to balance you know with all the other to balance you know with all the other tech that's already out there and this tech that's already out there and this is where we're working with some of the is where we're working with some of the health care system to say okay this health care system to say okay this technology is awesome. I mean, it's cool technology is awesome. I mean, it's cool technology, but how does it either technology, but how does it either supplement or potentially replace what supplement or potentially replace what you're doing today? So, it's going to you're doing today? So, it's going to take time to roll it out in that sense take time to roll it out in that sense in terms of, you know, being able to go in terms of, you know, being able to go through clothing and bedding. The reason through clothing and bedding. The reason why that's critically important is why that's critically important is because there's nothing to wear, nothing because there's nothing to wear, nothing to charge, and people are going to wear to charge, and people are going to wear whatever they're going to wear. You whatever they're going to wear. You can't control that. So, we had to do a can't control that. So, we had to do a lot of testing to make sure it can lot of testing to make sure it can accurately detect that type of movement.

accurately detect that type of movement. So, that's the first thing. It has to be So, that's the first thing. It has to be able to pick up that signal in the data able to pick up that signal in the data and then we have to be able to trend it and then we have to be able to trend it or report on it accurately when we or report on it accurately when we talked about making sure it's 95%.

talked about making sure it's 95%. The next thing is then like these The next thing is then like these different use cases that you're kind of different use cases that you're kind of talking about. Not only, you know, we talking about. Not only, you know, we talked about the ED but and we've talked talked about the ED but and we've talked about home health. I mean there's so about home health. I mean there's so many different things. And so we're many different things. And so we're trying to figure out what are the right trying to figure out what are the right use cases that supplement the nursing use cases that supplement the nursing workflow, not take and and potentially workflow, not take and and potentially replace if possible. I think we talked replace if possible. I think we talked about respiratory rate is actually a about respiratory rate is actually a proxy for pulseox. And so we're going to proxy for pulseox. And so we're going to work with a hospital system to do an IRB work with a hospital system to do an IRB to really try to do an efficacy study to to really try to do an efficacy study to see if that can be validated. Because if see if that can be validated. Because if that's the case, now you've got this that's the case, now you've got this contactless way of really, you know, contactless way of really, you know, providing data that physicians and providing data that physicians and clinicians rely upon. The the other use clinicians rely upon. The the other use case that I wanted to mention was you me case that I wanted to mention was you me the the nighttime monitoring. You know, the the nighttime monitoring. You know, you don't have to wake up a patient now you don't have to wake up a patient now four every four hours to do a a vitals four every four hours to do a a vitals check, right? That is part of a routine check, right? That is part of a routine if you're in a facility and this will if you're in a facility and this will just constantly monitor and the data is just constantly monitor and the data is reported. The question is and same thing reported. The question is and same thing here, we're working through the here, we're working through the hospitals. What do you want us to hospitals. What do you want us to report? Because we can send you, you report? Because we can send you, you don't need a 100,000 data points to send don't need a 100,000 data points to send to an EMR. You really just want to say to an EMR. You really just want to say maybe it's a snapshot every two hours, maybe it's a snapshot every two hours, every four hours. here's what the heart every four hours. here's what the heart rate average has been and then you can rate average has been and then you can send that to the EMR if that is relevant send that to the EMR if that is relevant or is that also just unnecessary or is that also just unnecessary collection of too much data and then collection of too much data and then maybe only put in the trending threshold maybe only put in the trending threshold alerts. So, we're working through, you alerts. So, we're working through, you know, without adding too much know, without adding too much information and more, I'll call it, um, information and more, I'll call it, um, non-useful information, right? It has to non-useful information, right? It has to be useful and something that's going to be useful and something that's going to be clinically impacting.

be clinically impacting. So, So, So, um, those are a couple more use cases um, those are a couple more use cases and I can give into a couple of more and I can give into a couple of more there, but there, but >> I mean, if I get equity stocks, I'd give >> I mean, if I get equity stocks, I'd give you more use cases.

you more use cases. So one of the simple things is that we So one of the simple things is that we we always like just and I'm going to we always like just and I'm going to finish here um is that that pain pain is finish here um is that that pain pain is a big is considered the fifth vital a big is considered the fifth vital sign. Now the problem really is that at sign. Now the problem really is that at some point in time we have to figure out some point in time we have to figure out as clinicians is this real pain or not as clinicians is this real pain or not and then uh one of the things that we and then uh one of the things that we can see is at some point in time with can see is at some point in time with your training and everything hopefully your training and everything hopefully that you know uh do we use narcotics or that you know uh do we use narcotics or even not subnarcotics like traumodol and even not subnarcotics like traumodol and stuff. uh and then heart rate, stuff. uh and then heart rate, respiratory rate, you know, overall can respiratory rate, you know, overall can be a significant impact for us because a be a significant impact for us because a person in pain will have other with person in pain will have other with vital signatures with pain as one of vital signatures with pain as one of them. Don't get me wrong, but I'm just them. Don't get me wrong, but I'm just saying that one of the things that we saying that one of the things that we can do this is also for chronic pain can do this is also for chronic pain patients because government is cracking patients because government is cracking down on not giving narcotics. But then I down on not giving narcotics. But then I cannot help my patients

either because cannot help my patients either because you know we don't want to get into you know we don't want to get into surgery or back surgery for no reason surgery or back surgery for no reason because the patient is going through because the patient is going through three months of physical therapy, three months of physical therapy, steroid injections, all of that. So uh steroid injections, all of that. So uh you know when the patient pops a pill you know when the patient pops a pill which can be also connected to your which can be also connected to your device through an electronic uh pill box device through an electronic uh pill box of oxycodolone and then you can review of oxycodolone and then you can review those uh through your device of how it those uh through your device of how it impacts not just the vitals etc.

impacts not just the vitals etc. [snorts] So, I'm expecting some shares. [snorts] So, I'm expecting some shares. But long story short, what I'm saying is But long story short, what I'm saying is that that there are so many multiple use that that there are so many multiple use cases for an FDA approved device that cases for an FDA approved device that can actually help clinicians can actually help clinicians actually help patients. Uh again, there actually help patients. Uh again, there are multiple ways to do so and I'm are multiple ways to do so and I'm grateful that you are open to grateful that you are open to understanding that technology like understanding that technology like anything else is on a spectrum and we anything else is on a spectrum and we can use multiple devices together to can use multiple devices together to trend it as nothing else. So Hari, back trend it as nothing else. So Hari, back >> Yeah, big picture. Good job, man. Uh I'm >> Yeah, big picture. Good job, man. Uh I'm with Ed. I'd love to see this in the with Ed. I'd love to see this in the consumer side. Uh obviously in the consumer side. Uh obviously in the elderly. I do some work in Singapore and elderly. I do some work in Singapore and and they're really heavy on uh longevity and they're really heavy on uh longevity and they know that the crunch of and they know that the crunch of providers and for the health care system providers and for the health care system are diminishing and the population's are diminishing and the population's aging. So tools like this will will help aging. So tools like this will will help us uh give better care. So I'm really us uh give better care. So I'm really curious um are you looking also at curious um are you looking also at international markets?

international markets? >> Yeah, we actually are in Europe. The >> Yeah, we actually are in Europe. The company's actually based out of Europe. company's actually based out of Europe.

So we have a whole market for Europe and So we have a whole market for Europe and Asia as well. Um starting off with the Asia as well. Um starting off with the US I think is where we can you know show US I think is where we can you know show a lot of data and because we've already a lot of data and because we've already deployed it in many of these long-term deployed it in many of these long-term care facilities. Uh one of the key care facilities. Uh one of the key things that we did is we did an efficacy things that we did is we did an efficacy for four months monitoring for four months monitoring 612 patients that were in the bed and 612 patients that were in the bed and what it produced was that 77% of the what it produced was that 77% of the time 5 days in advance we could predict time 5 days in advance we could predict an adverse event happening. So because an adverse event happening. So because of the trending data we're collecting of the trending data we're collecting all this data and we see what they're all this data and we see what they're doing. So you know and that's the same doing. So you know and that's the same thing that we're applying into other thing that we're applying into other markets as well. But again, it's about markets as well. But again, it's about these long-term care elderly patients.

these long-term care elderly patients. That's that's the easy market for us That's that's the easy market for us right now. Home health is going to be, right now. Home health is going to be, you know, something where we have you know, something where we have because it's a fixed radar. That's one because it's a fixed radar. That's one of the um I won't say limiting, but it's of the um I won't say limiting, but it's a different technology. It's not like a different technology. It's not like it's moving around. It requires you to it's moving around. It requires you to kind of generally be still or at least kind of generally be still or at least being able to capture it when you're, being able to capture it when you're, you know, like it's not going to check you know, like it's not going to check it when you're running. Like that's it when you're running. Like that's just that's not what our app does in our that's not what our app does in our capability.

capability. capability. The other um thing that we can also The other um thing that we can also detect and Jana since you had mentioned detect and Jana since you had mentioned about pain I think that was a great about pain I think that was a great idea. I mean I figure out a study to go idea. I mean I figure out a study to go do that. Like I

don't know how we would do that. Like I don't know how we would but it I'm sure there's some correlation but it I'm sure there's some correlation there that we could work on there that we could work on >> but we are already doing sleep studies >> but we are already doing sleep studies and that correlate to potentially and that correlate to potentially pressure injuries right so or pressure pressure injuries right so or pressure also call pressure injuries. So we're also call pressure injuries. So we're trying to do the analysis that says if a trying to do the analysis that says if a patients are not moving every four patients are not moving every four hours, we can send an alert, right? Or hours, we can send an alert, right? Or every two hours, whatever it is, they every two hours, whatever it is, they need to be moving if there's they're at need to be moving if there's they're at risk for any kind of pressure injuries.

risk for any kind of pressure injuries. So there's So there's >> after stroke patients that are >> after stroke patients that are paralyzed. That would be amazing.

paralyzed. That would be amazing. >> Yeah. So that's one element as well. Um >> Yeah. So that's one element as well. Um and then you know sleep score. We and then you know sleep score. We actually do give you a sleep score now.

actually do give you a sleep score now. So it basically how much you're moving So it basically how much you're moving because we're able to just easily track because we're able to just easily track that. This is just if you're sleeping that. This is just if you're sleeping well, we can see how much REM sleep you well, we can see how much REM sleep you had too. So there's all kinds of data had too. So there's all kinds of data associated with that. And then the associated with that. And then the second piece um that I wanted to mention second piece um that I wanted to mention was arhythmia. You mentioned that was arhythmia. You mentioned that earlier. So we will have arhythmia as an earlier. So we will have arhythmia as an FDA cleared thing at some point. Uh FDA cleared thing at some point. Uh that's going through the process right that's going through the process right now. So we're going to have that as one now. So we're going to have that as one of our releases in I'll say in the next of our releases in I'll say in the next year hopefully.

year hopefully. So about 15 years ago, I was in the NRA So about 15 years ago, I was in the NRA ICU and we had to get an ultrasound ICU and we had to get an ultrasound machine that was $75,000 and required an machine that was $75,000 and required an 8month to 9month process to get approval 8month to 9month process to get approval from finance and everyone to get one for from finance and everyone to get one for the ICU. And then of course 3 months the ICU. And then of course 3 months later, butterfly came in with a $5,000 later, butterfly came in with a $5,000 device that I was using it myself. And device that I was using it myself. And um we have seen this progression moving um we have seen this progression moving forward. And I just want to make sure forward. And I just want to make sure that audience understands what I mean by that audience understands what I mean by that. Uh what I mean by that is that that. Uh what I mean by that is that if I'm a true steward of health that if I'm a true steward of health care and also healthcare finances which care and also healthcare finances which by the way nobody reimburses me for it by the way nobody reimburses me for it and I'm just going to be very honest and I'm just going to be very honest with you that is one of the biggest with you that is one of the biggest reasons that the healthcare uh costes reasons that the healthcare uh costes run away because the person who's run away because the person who's stewarding it doesn't care because I'm stewarding it doesn't care because I'm I'm worried about defensive medicine.

I'm worried about defensive medicine. But coming back to the point that we But coming back to the point that we have screening devices then we have have screening devices then we have verification devices which is your verification devices which is your technology also on top of that and then technology also on top of that and then before I even call the patient to the ED before I even call the patient to the ED urgent care or the hospital for an urgent care or the hospital for an admission admission admission um where do you see evol evolution of um where do you see evol evolution of ultrasound homebased ultrasound by the ultrasound homebased ultrasound by the way there are now robots who can just do way there are now robots who can just do whole echo cardiogram through uh through whole echo cardiogram through uh through ultrasound ultrasound ultrasound uh as as an evolution of what we call a uh as as an evolution of what we call a monitoring spectrum and paradigm from monitoring spectrum and paradigm from screening to verification to screening to verification to localization to localization to pathways like admissions or further you pathways like admissions or further you know CTA heart or whatever imaging etc.

know CTA heart or whatever imaging etc. So where do you place ultrasound in So where do you place ultrasound in there? I don't know how to place it. I there? I don't know how to place it. I just want your opinion and your expert just want your opinion and your expert opinion.

opinion. opinion. >> Yeah. No, I I think it's it's one more >> Yeah. No, I I think it's it's one more piece of the puzzle, right? I mean we piece of the puzzle, right? I mean we talked about or I mentioned it earlier talked about or I mentioned it earlier when you think of the Star Trek when you think of the Star Trek triquarter you we all remember this like triquarter you we all remember this like you just point it and it does this whole you just point it and it does this whole full body scan and it gives you all full body scan and it gives you all kinds of information. So it's one more kinds of information. So it's one more piece that you know if we can implement piece that you know if we can implement that technology and we'll continue to that technology and we'll continue to get better and better right we're going get better and better right we're going to be able to find different things that to be able to find different things that our technology will do and it may our technology will do and it may supplement you know ultrasound too supplement you know ultrasound too because again I I can't speak too much because again I I can't speak too much about ultrasound. I'm not an expert in about ultrasound. I'm not an expert in there, but I understand the the core there, but I understand the the core concept behind it, right? I mean, it concept behind it, right? I mean, it detects the same kind of thing. It's detects the same kind of thing. It's detecting motion and and by sound waves, detecting motion and and by sound waves, and if there's a way to map and and if there's a way to map and correlate the tube, why would you not correlate the tube, why would you not want to, right? So, the this is just one want to, right? So, the this is just one more piece that we'd have to look at.

more piece that we'd have to look at. No, radar is amazing in the sense of uh No, radar is amazing in the sense of uh away from the patient and then ability away from the patient and then ability to use sound essentially at the end of to use sound essentially at the end of the day while the ultrasound brings more the day while the ultrasound brings more contact jelly and all of that but it contact jelly and all of that but it localizes exactly as well. So if you say localizes exactly as well. So if you say that the arrhythmia is generating is it that the arrhythmia is generating is it generating from the left atrium the left generating from the left atrium the left ventricle or whatever. So I get more ventricle or whatever. So I get more information information information >> right >> right >> right >> uh before even doing that and then when >> uh before even doing that and then when I'm prescribing something that is has I'm prescribing something that is has everything has a risk you know if I walk everything has a risk you know if I walk outside the road I mean I'm going to get outside the road I mean I'm going to get a risk of you know getting hit by a a risk of you know getting hit by a motor vehicle accident what I'm saying motor vehicle accident what I'm saying is that that risk stratification is that that risk stratification actually changes my game in terms of actually changes my game in terms of prescription prescription prescription without examination because now I have without examination because now I have so much data I have screening data then so much data I have screening data then I have radar data now have localized I have radar data now have localized data from an ultrasound and therefore data from an ultrasound and therefore producing it. And this brings us to the producing it. And this brings us to the last uh problem that I have. people are last uh problem that I have. people are seems to be that it's just everything is seems to be that it's just everything is freaking developing in a in a in a in a freaking developing in a in a in a in a isolation environment and that's Ed's isolation environment and that's Ed's always the point and actually you should always the point and actually you should clarify this like do you feel and I did clarify this like do you feel and I did just for now given the whole you know just for now given the whole you know geopolitical geopolitical geopolitical uh inflation you know actually and the uh inflation you know actually and the whole mindset of humanity itself within whole mindset of humanity itself within the last five years uh postcoid has the last five years uh postcoid has changed from less maybe I'm wrong changed from less maybe I'm wrong sharing to protectionism and of course sharing to protectionism and of course healthcare always had that goddamn healthcare always had that goddamn problem and now I think it's it's on problem and now I think it's it's on steroids I don't know at first comment steroids I don't know at first comment on my my stupid assumptions if I'm on my my stupid assumptions if I'm actually assumption is correct and nan actually assumption is correct and nan what is your overall innovation what is your overall innovation sharing collaboration sharing collaboration attitude given that you are a CIO of a attitude given that you are a CIO of a hospital as well so both of you can hospital as well so both of you can comment on it comment on it >> well Janade I I would agree with you, >> well Janade I I would agree with you, but I'm going to defer to Nyan's but I'm going to defer to Nyan's expertise, but interoperability has expertise, but interoperability has always been an issue and that's why the always been an issue and that's why the government's getting so much involved government's getting so much involved and trying to set up rules and and trying to set up

rules and regulations to encourage companies to regulations to encourage companies to share, but they always find ways around share, but they always find ways around it. Yeah. I'm not a I'm not a big fan. I it. Yeah. I'm not a I'm not a big fan. I think we could do much better.

think we could do much better. >> Yeah. And and I think from our end, you >> Yeah. And and I think from our end, you know, one of the key things is know, one of the key things is protecting the data and the PHI side of protecting the data and the PHI side of it, right? So we actually provide that it, right? So we actually provide that I'll say ownership to the healthcare I'll say ownership to the healthcare organization. Ours is really just a organization. Ours is really just a device data like we're saying this is device data like we're saying this is what our device is reporting how you what our device is reporting how you correlate it to a patient you know we're correlate it to a patient you know we're just giving you essentially anonymized just giving you essentially anonymized data and then if you're attaching this data and then if you're attaching this to a patient then it becomes the to a patient then it becomes the organization who is making that step. So organization who is making that step. So we we we don't want to necessarily get we we we don't want to necessarily get in that game because there's already in that game because there's already complications there that the healthcare complications there that the healthcare organizations have to deal with. So organizations have to deal with. So we're kind of leaving it up to them.

we're kind of leaving it up to them. They're going to continue to They're going to continue to play with that as much as possible. And play with that as much as possible. And our goal is to just, you know, as much our goal is to just, you know, as much as possible be agnostic to that as possible be agnostic to that situation and protect the PHI because situation and protect the PHI because we're really just it's very device we're really just it's very device dependent. And you know when you're dependent. And you know when you're rotating this device between multiple rotating this device between multiple patients then it's saying okay at this patients then it's saying okay at this point in time you know what whoever was point in time you know what whoever was in that um range or patient or the home in that um range or patient or the home device that's who the patient was but device that's who the patient was but you know 6 months from now somebody else you know 6 months from now somebody else is going to be in there. So you have to is going to be in there. So you have to that goes back to the healthcare that goes back to the healthcare organization and what they're doing with organization and what they're doing with the data. We're not we're providing and the data. We're not we're providing and sending that data to the organization sending that data to the organization however they want to use it is their however they want to use it is their their challenge.

their challenge. And the other thing you mentioned And the other thing you mentioned earlier was just how things are kind of earlier was just how things are kind of going and more and more technology is going and more and more technology is being put in place. I'm sure you've seen being put in place. I'm sure you've seen camera technologies as well. You know, camera technologies as well. You know, every bed is being able to be every bed is being able to be retrofitted with these great all kinds retrofitted with these great all kinds of integrated systems. And you know, we of integrated systems. And you know, we we're actually working with a couple of we're actually working with a couple of what we call innovation centers or what we call innovation centers or transformation centers. Um there's two transformation centers. Um there's two across the US right now and one of them across the US right now and one of them in the medical district in Houston, in the medical district in Houston, right? So we're going to show our device right? So we're going to show our device how it supplements other things, right?

how it supplements other things, right? Because camera can't detect vitals, Because camera can't detect vitals, okay? They can help with motion and okay? They can help with motion and different things, right? But they can't different things, right? But they can't do vitals. They can't do temperature.

do vitals. They can't do temperature. you know, you still need, you know, you know, you still need, you know, >> I just want to clarify for the audience, >> I just want to clarify for the audience, there are people who are actually there are people who are actually calling the camera and then they on the calling the camera and then they on the tele medicine, they're trying to report tele medicine, they're trying to report a lot of By the way, just to let a lot of By the way, just to let you know, this is all garbage. There is you know, this is all garbage. There is really no real camera technology. I have really no real camera technology. I have tested it. People are saying they're tested it. People are saying they're going to use it. Phone con phone cameras going to use it. Phone con phone cameras for vitals does not work. Just be for vitals does not work. Just be careful in it, man. And I completely careful in it, man. And I completely agree with you as a clinician. I'm agree with you as a clinician. I'm backing you up with that claim.

I just backing you up with that claim. I just everyone to understand that limitation.

everyone to understand that limitation. Maybe it's going to go away. Maybe we're Maybe it's going to go away. Maybe we're going to have liars on the phones, which going to have liars on the phones, which by the way, LAR is essentially a radar.

by the way, LAR is essentially a radar. >> Yeah. >> Yeah. >> Yeah. >> Just just just to remind everyone. Uh >> Just just just to remind everyone. Uh but uh and of course uh cameras that but uh and of course uh cameras that can, you know, do can, you know, do not retinoscopy, but you know, optim you not retinoscopy, but you know, optim you know, something that will look at it. So know, something that will look at it. So we're looking at some of these things.

we're looking at some of these things. Me and Harvey share new innovation Me and Harvey share new innovation technologies coming but at this point in technologies coming but at this point in time it is not clinical grade or I do time it is not clinical grade or I do not see right now in the next year or so not see right now in the next year or so to be clinical grade. Things are to be clinical grade. Things are changing so fast that I cannot see changing so fast that I cannot see beyond a year anymore. So beyond a year anymore. So >> yeah I'm going to jump in real quick. So >> yeah I'm going to jump in real quick. So to your point uh yes as a doctor we look to your point uh yes as a doctor we look at trends. Now the accuracy versus at trends. Now the accuracy versus trends are two different things but trends are two different things but we're looking at trends. If my heart we're looking at trends. If my heart rate is 100, but the accuracy is between rate is 100, but the accuracy is between 80 and say 110. Yeah, that's big. But if 80 and say 110. Yeah, that's big. But if there's a sudden change that it went there's a sudden change that it went from say 40 to 50, now it's 70 to 80 or from say 40 to 50, now it's 70 to 80 or 90 because its range is off. It's still 90 because its range is off. It's still showing me the trend. And to your point, showing me the trend. And to your point, the cameras are having now uh a lot of the cameras are having now uh a lot of phones are adding lidar to them so that phones are adding lidar to them so that you're able to optimize. uh as a you're able to optimize. uh as a experiment I bought this little right uh experiment I bought this little right uh little robot and I'm going to make sure little robot and I'm going to make sure that the robot uh I'm able to look at that the robot uh I'm able to look at different uh algorithms are out there.

different uh algorithms are out there. I'm going to add it to this robot. I'm I'm going to add it to this robot. I'm going to put it right here next to the going to put it right here next to the computer. Now, I could use this camera, computer. Now, I could use this camera, but I think it'd be kind of cool to just but I think it'd be kind of cool to just use this thing and um I'm going to do use this thing and um I'm going to do kind of these things. I'm going to check kind of these things. I'm going to check my vitals, checking trends, I can I did my vitals, checking trends, I can I did one for dermatology that looks at my one for dermatology that looks at my skins and tells me how hydrated I am, skins and tells me how hydrated I am, how well I'm doing. Uh, and then it how well I'm doing. Uh, and then it gives me my uh it I I hacked it into my gives me my uh it I I hacked it into my cloud apple base photos. And I know you cloud apple base photos. And I know you guys are like, "God, Harvey, don't do guys are like, "God, Harvey, don't do that." But it's analyzing and it looked that." But it's analyzing and it looked at the last uh 15 years of pictures of at the last uh 15 years of pictures of myself. And then it gave me a range of myself. And then it gave me a range of what my skin looked like, how I age, what my skin looked like, how I age, what time period in my life I age what time period in my life I age quicker, what time period I actually did quicker, what time period I actually did not age as much and went the other way.

not age as much and went the other way. So just kind of food for thought. If I So just kind of food for thought. If I could do this, then in the future, uh, could do this, then in the future, uh, it'll be just every day on your it'll be just every day on your computer.

computer. computer. >> Yeah, that's amazing. >> Yeah, that's amazing. >> And you need to send a device pronto to >> And you need to send a device pronto to him so he can collect data from him so he can collect data from [laughter] you.

[laughter] you. >> The Harvey. And by the way, just to let >> The Harvey. And by the way, just to let everyone know, we still sometimes, everyone know, we still sometimes, you know, assume that Harvey is not you know,

assume that Harvey is not human and probably an AI robot himself.

human and probably an AI robot himself. [laughter] [laughter] [laughter] The amount of stuff that comes out of The amount of stuff that comes out of this girl is insane. Anyways, um I have this girl is insane. Anyways, um I have first of all, I'm grateful that you are first of all, I'm grateful that you are doing this here in Dallas. So, anyone doing this here in Dallas. So, anyone who wants to do we're going to hopefully who wants to do we're going to hopefully set up another uh lunchon for all of our set up another uh lunchon for all of our prior guests, especially in Dallas, and prior guests, especially in Dallas, and then go from there. Now last few episode then go from there. Now last few episode and this is a probably the last and this is a probably the last question. Uh we got another uh amazing question. Uh we got another uh amazing innovator who built a savvy which is innovator who built a savvy which is essentially accessing uh my health essentially accessing uh my health information through different healthcare information through different healthcare systems and making it easy and I was I systems and making it easy and I was I missed that. I mean I reviewed the whole missed that. I mean I reviewed the whole uh you know podcast later uh and then uh you know podcast later uh and then you said that we want to give the data you said that we want to give the data and this is not something and to the and this is not something and to the quote unquote healthcare organization quote unquote healthcare organization which is now an overall debate you don't which is now an overall debate you don't have to comment on your particular have to comment on your particular device and the current status but what device and the current status but what are your thoughts and all three of you are your thoughts and all three of you who who should own the medical data is who who should own the medical data is it the patient the health care system it the patient the health care system the EHR and then of course there's an the EHR and then of course there's an intellectual property issue Because when intellectual property issue Because when I generated the note, it's my node. Why I generated the note, it's my node. Why does physician why does the healthcare does physician why does the healthcare organization or even the freaking organization or even the freaking patient owns it? So is this a is this patient owns it? So is this a is this like and you may able to sort of help me like and you may able to sort of help me in other industries or are we in other in other industries or are we in other industries when this is this industries when this is this multi-dimensional stakeholdership with multi-dimensional stakeholdership with stakeholder contribution? How do you stakeholder contribution? How do you decide the ownership?

decide the ownership? >> So I I don't know Ed you want to go at >> So I I don't know Ed you want to go at that first because he he addressed that that first because he he addressed that to you. So, and you're on mute.

to you. So, and you're on mute. >> I, by the way, I learned from him more >> I, by the way, I learned from him more than uh Go ahead. [laughter] than uh Go ahead. [laughter] >> No, I uh the the government should own >> No, I uh the the government should own it. No, I'm just kidding. [laughter] it. No, I'm just kidding. [laughter] >> Are you a Texan or what? I'm just >> Are you a Texan or what? I'm just kidding.

kidding. kidding. >> No, I believe Yeah, as a Texan >> No, I believe Yeah, as a Texan especially, I believe that uh the especially, I believe that uh the individual owns the data.

individual owns the data. >> So, I mean, it's not >> So, I mean, it's not >> Yeah, you should. Everyone should own >> Yeah, you should. Everyone should own their own data. Um, so I mean if you had their own data. Um, so I mean if you had to pick one, that's my pick. Obviously to pick one, that's my pick. Obviously there's nuances like you talked about there's nuances like you talked about Janade where you're using your IP, your Janade where you're using your IP, your technology, you know, so why should technology, you know, so why should someone else benefit? But ultimately at someone else benefit? But ultimately at the end of the day, if we want, we all the end of the day, if we want, we all know the key, I love monitoring. I love know the key, I love monitoring. I love everything we talk about. But at the end everything we talk about. But at the end of the day, the biggest difference maker of the day, the biggest difference maker is the personal decisions people make on is the personal decisions people make on a daily basis. What am I going to eat?

a daily basis. What am I going to eat? What am I going to drink? Am I gonna What am I going to drink? Am I gonna exercise? So, it doesn't matter, right?

exercise? So, it doesn't matter, right? Monitoring is like is important for Monitoring is like is important for sure. I love

it. But the main thing is sure. I love it. But the main thing is personal accountability. So, if we can personal accountability. So, if we can make people responsible or interested in make people responsible or interested in their own data and they own their data, their own data and they own their data, I think they're more likely to therefore I think they're more likely to therefore uh become engaged in their own health.

uh become engaged in their own health. So, I think that's kind of the main So, I think that's kind of the main reason why I would put it on the patient reason why I would put it on the patient to own the data.

to own the data. >> Yeah, I think Harvey. >> Yeah, I think Harvey. definitely been a challenge. The magic definitely been a challenge. The magic question. I mean, that question is asked question. I mean, that question is asked all the time. Who owns the data? And all the time. Who owns the data? And there's there's just never been one there's there's just never been one right answer that can be um put out right answer that can be um put out because there's so many different because there's so many different scenarios of the types of data that's scenarios of the types of data that's out there, right? I mean, if you go if out there, right? I mean, if you go if you have any issue of any kind, you're you have any issue of any kind, you're visiting multiple organizations, visiting multiple organizations, multiple systems, multiple vendors could multiple systems, multiple vendors could be involved, and there's data going in be involved, and there's data going in different places. I agree with Ed different places. I agree with Ed though. I mean it's it's really the though. I mean it's it's really the patient's data at the end of the day. Uh patient's data at the end of the day. Uh but there's different types of data like but there's different types of data like you said a physician note well that you said a physician note well that physician is the one who is that that's physician is the one who is that that's a different type of data that's not a a different type of data that's not a vitals data you know so that's actually vitals data you know so that's actually an analysis made on the patient right so an analysis made on the patient right so there's different types of data and even there's different types of data and even then that should be okay you know Dr.

then that should be okay you know Dr. Kalia said this is what he said about me Kalia said this is what he said about me and my health. So isn't that my data and my health. So isn't that my data now? Like this is about me still, right?

now? Like this is about me still, right? So there are challenges around that, but So there are challenges around that, but governing that is where it becomes a big governing that is where it becomes a big challenge because there's too many challenge because there's too many variables and too many data streams that variables and too many data streams that are out there.

are out there. >> I'm going to close today with the last >> I'm going to close today with the last question to Dr. Harvey Castro, my bestie question to Dr. Harvey Castro, my bestie as well. Harvey, you're essentially as well. Harvey, you're essentially building a digital twin of yourself and building a digital twin of yourself and you're constantly experimenting with all you're constantly experimenting with all these new monitoring technologies also these new monitoring technologies also getting all your data into one place and getting all your data into one place and not just about the skin you know six not just about the skin you know six different devices your electronic health different devices your electronic health records etc. So comment on the last two records etc. So comment on the last two things number one uh how do you see things number one uh how do you see moving forward are you going to do echo moving forward are you going to do echo cardiograms on yourself on a regular cardiograms on yourself on a regular basis or not? So how do you how do you basis or not? So how do you how do you see that evolution of monitoring in in see that evolution of monitoring in in terms of LAR, radar, ultrasound etc. And terms of LAR, radar, ultrasound etc. And then how do you if I have your digital then how do you if I have your digital if I if you for if you give me access to if I if you for if you give me access to your digital to do to do analysis as a your digital to do to do analysis as a company or as a physician as a company or as a physician as a neurological cognitive assessment neurological cognitive assessment um should I keep a copy or you you going um should I keep a copy or you you going to say no this is me?

to say no this is me? >> Yeah. So got so many things to unpack in >> Yeah. So got so many things to unpack in a few minutes but I'll share this a few minutes but I'll share this having since I work for a space company having since I work for a space company phantom space we are working at cloud phantom space we are working at cloud data centers in space now think about data centers in space now think about that if I could give everyone your data that if I could give everyone your data on your phone and now you I have you on your phone and now you I have you

give you a direct access to a data give you a direct access to a data center not open AI nothing AI it's where center not open AI nothing AI it's where it's doing edge computing and processing it's doing edge computing and processing and coming back think of all the and coming back think of all the possibilities of what he's doing and possibilities of what he's doing and then to answer your question on the then to answer your question on the digital twin who owns that data. If we digital twin who owns that data. If we can create some kind of blockchain can create some kind of blockchain system that allows you to keep it on system that allows you to keep it on your device, process somewhere else, your device, process somewhere else, come back down, now we've created this come back down, now we've created this independence that we're wanting. Um, independence that we're wanting. Um, number two, as far as what the future number two, as far as what the future holds. Nice thing is many companies are holds. Nice thing is many companies are doing uh this progress and I'm really doing uh this progress and I'm really anxious to see what the Dubai area is anxious to see what the Dubai area is doing in the Middle East and Singapore doing in the Middle East and Singapore because they're really pushing hard on because they're really pushing hard on this creating digital twins, putting it this creating digital twins, putting it inside your EMR so that it's already one inside your EMR so that it's already one platform and it's being pushed down from platform and it's being pushed down from the government to one all the way down.

the government to one all the way down. What do I see coming in the future? I I What do I see coming in the future? I I really see I love voice biomarkers. I I really see I love voice biomarkers. I I think that is gonna hit hard and I'm think that is gonna hit hard and I'm really excited. I'm I'm actually looking really excited. I'm I'm actually looking at training some of my own data so I can at training some of my own data so I can come up with my own algorithms because come up with my own algorithms because that I I think that'll be fun. U but big that I I think that'll be fun. U but big picture the one thing I want to say it's picture the one thing I want to say it's all about the patient. What can we do to all about the patient. What can we do to help that person and if we can save help that person and if we can save lives and create the thing where we're lives and create the thing where we're preventing things before they actually preventing things before they actually happen we have made an impact in happen we have made an impact in humanity.

humanity. humanity. >> Again uh Naan so grateful to you. we're >> Again uh Naan so grateful to you. we're going to meet in person hopefully all going to meet in person hopefully all four of us together here in Dallas or I four of us together here in Dallas or I would just definitely come and meet you would just definitely come and meet you to see where we can collaborate and then to see where we can collaborate and then uh looking at clinical paradigms uh looking at clinical paradigms clinical trials IRBs all of that and clinical trials IRBs all of that and then uh and of course I'm grateful to to then uh and of course I'm grateful to to the audience and my besties to join the audience and my besties to join thank you so much see you next week thank you so much see you next week