Health Connective Show #15 – RJ Kedziora

Michael (00:01.31)

Welcome to the Health Connective Show. I'm your host, Michael Roberts, joined by co - host Justin Bantuelle. Today we're talking to RJ Kedziora. He's the co-founder of Estenda Solutions, which specializes in custom software and data analysis for healthcare. RJ, thank you so much for joining us.

RJ Kedziora (00:26.172)

Yeah, thanks for having me. Looking forward to the conversation.

Michael (00:28.83)

Absolutely. So in this episode, we're going to be talking about developing actionable insights from the data we collect. As we were talking beforehand, our companies focus on similar types of solutions, but in very different kind of contexts. So I think it's going to make for some really interesting conversation. It's something that, you know, developing those actionable insights is something that a lot of healthcare stakeholders would like to have, but there are a whole lot of challenges on how we actually get there. So.

As we're kind of getting in started with this conversation, let's just start with some of the basics, make sure we're all on the same page. Let's start with an overview of the type of work that your company focuses on and giving sort of those definitions of digital health and digital therapeutics.

RJ Kedziora (01:11.26)

Yeah, thank you. Yeah, Estenda is a company I co -founded a little over 20 years ago. So it's pretty crazy to be able to talk about decades of experience, but it's been a great, amazing journey. We do focus on digital health, software development and data analysis projects. And really, I think it is about using data that's coming off of devices to better understand what's going on with a patient in particular. And we got started.

20 years ago, that was a rare thing. You know, being able to get that data into the cloud to be able to do anything with it was really interesting and challenging. Today, fast forward 20 years, there's tons of data now. So the decision points have changed and inflected, like how do you make use of all of this data now? And so that's really the digital health aspects. How can we improve the health and wellbeing of other people? When it comes to digital therapeutics,

It's a relatively new term, 2016, 2017, kind of came around. And I think of it as the difference between vitamins and minerals, which has some evidence that they work, but it's not really been proven. You're not really sure. That's digital health as a general class. Then you have medications, which have gone through an extensive rigorous process to prove, to validate that they actually work, that the FDA has reviewed this evidence to say they work.

That's the idea of a digital therapeutics equivalent to that medication. Digital therapeutics are often prescribed by your physician. And for that reason, they can drive higher payments from insurance companies. So it's a relatively new term, new idea to help promote the idea of digital health out there.

Michael (02:56.574)

Yes, you move from just kind of a nice to have like, you I've got a Garmin smartwatch, but I'm not taking that to my doctor and I'm not saying like, Hey, can you please, you know, review all the data that I have here? Um, I'm curious, what, what kind of therapeutics projects have you worked on recently? Like what you read on necessarily after like name company names or anything like that. But curious as to some examples of that in particular.

RJ Kedziora (03:19.228)

Yeah, that always makes our life challenging because we sign all sorts of NDAs. But likewise, I'm sure you guys as well, it's really the ideas of mental health in terms of diabetes and driving those very clinically driven, evidence based types of solutions. We have a couple of PhDs on staff to help drive those ideas to do the validation. But yeah, it's very patient focused work these days.

Michael (03:47.806)

That's awesome. That's awesome. I like that combination between that comparison between vitamins and actually like prescribed things. That's a fun way of talking about it. So.

RJ Kedziora (03:56.74)

Yeah, vitamins work, but the level of evidence isn't there.

Michael (04:01.182)

Yeah, absolutely. Absolutely. I take a vitamin, so I'm hoping that it does something. So, you know, one of the constant discussion points that we have as company and, you with other colleagues that we're around is there's all this information is coming out, right? All this information coming off these devices and people can just drown in reports. There are so many different ways of trying to present data that like it could be useful if you have hours to sit and go through all that data.

and a lot of patients. But people seem to be short on that time and on that patience as well. They're looking for something that they can get in and they can take action based on what they're finding. So how are you seeing that play out in digital therapeutics and digital health just in terms of where we're at today?

RJ Kedziora (04:51.74)

Yeah, before we got started, we were talking about I raised triathlons. And so I personally got very interested in the idea of data and tracking and better understanding what was going on with my physiology as I was out there, swim, bike, running and kind of thing. And it did, it started out years ago of just like, here's a bunch of data. What do you do with it? And that was very challenging. So now doing things as simple as graphing and charting that information.

helps you better understand that data, but it still requires a level of knowledge and education to be able to understand what that graph is doing. So how do you translate that into meaningful information, not just to the patient, but to the provider as well? So if you have an Apple Watch and it tracks a dozen metrics and you walk into your doctor that you might have 10 minutes with if you're lucky, and you show them a chart, he doesn't have time to analyze this and look at it and provide you feedback.

that physician, the nurse practitioner, even get training in that particular area in medical school. So it's about providing the relevant information at a point of inflection. When can you make a difference with that patient? So it's not just, okay, here's all of my, you know, for a person with diabetes, here's all my blood glucose information. Well, what am I supposed to do with that? Nowadays, the continuous glucose meters track information as frequently as every five minutes.

That generates a lot of data points every day. So if you can share that information with your provider and the solution surfaces, okay, here are the relevant points in time where you should have a discussion with this patient to better understand with that, you really start making a difference. And then going the next step of providing actual advice, what to do with it. So not only that, hey, this person's like, woo has went up or went down in a particular situation, but what's that next step?

Particularly in diabetes, this idea and other chronic conditions, the idea of inertia that physicians just don't advance the medication regimen to help that patient quickly enough. So if we can provide that advice to feedback, it's like, okay, this isn't working. Let's move to the next step to make a difference.

Justin (07:03.95)

Yeah, I think, uh, Aligned to that. I remember talking to somebody else who, um, he had said that everyone's sick of dashboards. Dashboards are kind of useless. And like, I was like, well, what are you looking for instead? How do you present the data? And for him, it was not so much that a dashboard is inherently useless, but that if the information in it isn't contextualized, it's useless. And getting that context, which I think is a lot of what you're talking about here.

is what's so essential. It's like you need to be able to quickly understand it, understand the context of it so that you can make those decisions that are so essential. Yeah, if you're having to analyze it for the decision making purposes that you've already lost most people because you're just one of a million things they have to do in a day.

RJ Kedziora (07:41.884)

Absolutely.

Michael (07:53.726)

As, as, uh, so as a show host, right? Like these are topics that I'm interested in, but, um, you know, one of the things that I saw kind of in your, your bio RJ was that your company, uh, and you end up working with companies a lot on, uh, chronic conditions in particular. We have a chronic patient within our family. And so very, very regularly get the, we have the conversation point of did the test that we just ran.

and got these, you know, these, all these different metrics back. Is this a lagging indicator? Is this a current indicator? Where am I at? And so some of these things where you're talking about like being able to move more aggressively on that, that treatment plan. I mean, you know, sometimes we're talking about things that for our family, something that may have happened six months ago, and we're trying to develop a treatment plan based on, you know, some sort of marker that may have been recent or may not. And it's like,

this, why aren't we doing more? Why aren't we there yet? Like, why haven't we figured some of this stuff out? And after we finish this episode, remind me to ask you a few questions, because I am curious if you're in a particular area of medicine where that would be of interest to us. But so, you know, this is where we're at now. What's coming? What do you think is the future of this field of trying to make this information as just relentlessly relevant as possible?

RJ Kedziora (09:19.612)

Yeah, there is a, I think of two crises in America right now, mental health and obesity. And there are some associations and ties, you know, one influences the other, but there's just not enough professionals to take care of all these people. There's an organization called the Mental Health America, a nonprofit group, but there just aren't enough professionals out there to do this. And their estimate,

back a couple of years was as much as 20 % of adults have some sort of mental illness. 70 % of Americans are overweight or obese in some capacity. So significant challenges. And someone said somewhere, you're not birthing your way out of this problem. We can't bring enough people into the world and train them to be medical professionals to do this. So this is where the digital health, the digital therapeutic applications come to play. As we develop these and for...

prove the evidence out that they can make a difference. This is how we're going to impact society and individuals. And I think part of that is contextualizing it Justin, you were talking about that, and understanding the data of what's going on in that person's life. I started out wearing heart rate monitors with multiple leads all over my shirt. Now you wear a ring or the Apple Watch to get that same information. You don't think about it anymore.

So that's where in terms of technology and gathering the data and understanding the context, this is going. Interestingly, I think it was at CES early this year, someone had essentially a necklace that you wore and recorded a bunch of video and stuff like that about your day-to-day kind of thing. There's obviously privacy issues around that and what that means. But taking the AI technology that's coming around, you can really understand what's going on in that person's

daily life. what are they actually eating and consuming? 15 years ago, probably we did a study with some people at the Jaws and Diabetes Center where we gave people cameras to take home pre iPhones and everything like that. So they took these cameras home and just took pictures of what they were eating. And then they would come in and they would tell you, okay, here's what I ate. And then you look at the picture and we're like, well, wait, there's a bag of potato chips there. You know, like you didn't mention that, but they just, you know, they didn't think about it. You know, they're not.

RJ Kedziora (11:42.588)

They're not trying to hide it by any means. They just don't think about it. You don't remember that three or four days later when you're trying to write down, OK, what did I have this week? So the better you can gather that information and use technology to make a difference, the better off.

Justin (11:42.606)

Yeah, self -reporting is just... Yeah.

Justin (11:52.206)

very hard.

Michael (12:00.126)

The, yeah, it's interesting, the mental health crisis that we are facing as a country. I have a couple of teenagers at this point. And so one of the conversations that I have as a parent with other, either with like counselors or with other people that are around my kids is that our kids are facing more, what I'll just call like adult scenarios.

than what I ever had to face at their age. The amount of students that my kids are hearing say, I'm thinking about ending it. I'm having major, major challenges. Like, yes, 20 % of adults, but there's a really large population in the team, that adolescent group as well, that's really facing this. I think that anything and everything that we can throw with this challenge is just gonna be immensely important. Transitioning a bit,

So digital therapeutics as a field, like you did mention this being sort of a more recent thing and every sort of more recent wave that comes into medicine has this sort of hype phase and then it sort of calms down a bit and then we sort of see like where things are really at. So kind of walk us through that, I guess, like where do you feel that we are for digital therapeutics on sort of the hype phase? Are we calmed down and now we're getting into the real meat of it or are people still just kind of like,

hoping for the moon with this particular area of medicine.

RJ Kedziora (13:31.228)

Yeah, I say we're still on that upside of hoping for the moon. There's a lot of potential that hasn't been realized. And there's challenges here, particularly in the US. It seems like some countries in EU are understanding and grappling with a little better right now. One of the challenges is, OK, you have a digital therapeutic and you want to get paid for it. You invest a lot of money in validating this thing and getting it approved by the FDA.

As an individual person, you don't see a lot of people like, am I going to really pay $10 a month for this app? So the idea is then to have it prescribed by a doctor and get it reimbursed by the insurance company at a much higher rate. But unfortunately, what we've been seeing is some of those early innovators in the space, and Pear Therapeutics is the biggest example, in early 2023, so they were on the vanguard, they went bankrupt. They shut down. And that put fear in the industry, the insurance companies, it's like, can we really take on and start reimbursing some of these solutions when we don't know if they're going to be there? And then the US government, Medicare and Medicaid, have not really figured out how to reimburse for these just yet. So you have a payment challenge here in the US. So there's a clear path to getting them approved for use on market and to be prescribed. But then that payment model hasn't really come through yet. Some states, some health systems have said, we'll cover some individual drugs to make a difference in there. But in Germany, I think it's called DIGA, D -I -G -A, is there regulations around the idea of digital therapeutics? They've tied approval to reimbursement. So really trying to make the difference there. And so it's a model that the US should look to follow.

Michael (15:23.934)

Yeah, I think that's great if we can sort of borrow what other other regions have already figured out and learn from that. So, you know, we're talking about, you know, we're on the medical device side and a lot of the data that we present ends up going to physicians, going to different types of engineers, that sort of stuff. So, you know, we're collecting all this data and we're presenting it to all these different types of users.

When it gets down to sort of the nuts and bolts, like you're working in the project itself, you're trying to figure out like which data you're actually going to use, how you're going to make it useful to each type of user. What processor are you following at your company?

RJ Kedziora (16:02.492)

Yeah, I think the key is going beyond data to how you bring information and using that to generate knowledge. It's really about understanding the situation and the challenge. So when we are developers on projects, the quality assurance people, everybody that's part of the software development, the data projects kind of thing, we do two things. We teach the science so that you understand.

diabetes, congestive heart disease, traumatic brain injury, mental health. You're not going to treat anybody. You're not a doctor, but provide some context to better understand what that patient is going through, where the challenge of the healthcare professional working with that person, really gaining a better understanding of that. And then empathy. Understanding as a software developer, you're not developing for you. You're developing for somebody else

and really try and continually to keep pushing that idea and boundary and how do you help other people. And it's even as you think of it like a software developer, when you're writing code, you write code a lot less than you read it. Like, so as soon as you've written code, you're now reading code. So the easier you can make it for yourself to read and understand that the next day, the next week, for the next person that's looking at that code, for the quality assurance person that's going to test it.

The easier you can make it for them and empathize with their situation, let alone the end game of the patient that you're working with or the healthcare professional, the better off you're gonna be. So yeah, we really teach the science and empathy.

Michael (17:45.086)

When it comes to like, I guess like who's having to look at this information and, and, um, do something about it. Are you finding that it's more important? Like is your end user more like

the patient themselves or are you trying to work with physicians more? Like, I guess like on a day to day, like project by project, like sure it varies, but which one are you kind of seeing be, be the more critical audience for you there?

RJ Kedziora (18:09.34)

Yeah, It's probably 80% on the provider, the healthcare professional side, 20%. Even when we are doing things that are patient facing, we're partnering with those healthcare professionals to make sure we really understand what that person is going through and getting that empathy down really well. So yes, it's very provider healthcare professional focused.

Michael (18:32.734)

Awesome. Awesome. We were, we were talking to somebody, um, just recently on one of the episodes that was saying like, yes, the physician wants to be able to read the information and wants to be able to get through everything that's here. But one of their key needs for the day can be just, can I get home sooner in the day? Can I like not have to open my laptop after I got done with work and have to go back through this information? So really trying to get like a comprehensive view of, of what other people are going to going through. Let's.

Justin (19:00.878)

Um, a question. Do you mind if I, um, some curious, uh, with what you're doing with AC said like 80 % you're getting in front of physicians, this information, uh, with the data you're working with, are you, is it purely data that you're generating off of a device? Are you cross referencing against other kinds of information that are coming from other data sources? Like,

what are those circumstances that you're in?

RJ Kedziora (19:32.028)

Yeah, great question. It does tend to be data coming off the devices and bringing it together with other contextual information. So a lot of work around EMR integration. So just understand. Yeah, yeah, yeah. It's really as you develop these solutions and speaking to the physician that wants to get out of the office, you need to be able to provide this data in context of their

Justin (19:45.422)

Okay, so you're dealing in that space and pulling in EMR data and EHR data.

RJ Kedziora (20:02.372)

workflow.

Justin (20:02.542)

Yeah, it's almost impossible to contextualize without that information. Yeah.

RJ Kedziora (20:06.396)

No.

Justin (20:09.006)

Um, what are the authorization sides of that look like? Um, is that something where you're talking like an app on somebody's device and they just kind of approve it connecting through, um, an HR integration that's already there? Like, um, I know there's just, I encountered this a lot where we're working with medical device companies and they want that data, but they don't want the legal liability of touching that data. And, and they're like, Oh, each hospital has its own EHR. And so there's just, there's so many.

Michael (20:09.31)

So, yes.

Justin (20:39.17)

challenges a lot of times. And yeah, I'm just curious kind of what your experiences are with that and how you all have navigated it.

RJ Kedziora (20:46.62)

Yeah, we were really pushing now like many others, the concept of FHIR, F -H -I -R and the smart protocols to be able to do single sign -on implementations and things of that nature to make it seamless as part of the workflow. But even that has its challenges. I've talked to some startup organizations that are like, oh, we're going to do FHIR and it's going to solve all the problems. Like, no, that's just where it starts.

Justin (21:11.374)

Yeah. Yeah.

RJ Kedziora (21:13.34)

Um, it is a significant advancement above and beyond like the HL seven messaging protocols. Cause it wasn't a lot of people that understood those protocols. There's a lot more people that understand how to use API's, which is what fire is based on. So the learning curve is a little less, but it's still how are you encoding data within, within the fire protocol? There is a lot of variability in that. And I always find it amusing in terms of exchanging information.

We are making great strides as an industry, but I can move my money anywhere in the world with exchange currencies very easily. Nobody has to think about it. Healthcare has still got a long way to go. And there's some somewhat of the, oh, okay, there's this challenge. Let's create another methodology. So now it's like the TEFCA protocols and ideas. It's like, okay, we had solutions to this before. So now it's like, let's create some new solutions.

Justin (22:00.014)

Yeah.

Justin (22:10.286)

Yeah.

Michael (22:10.654)

I guess that keeps people employed, I'm sure, as you keep coming up with new ideas. So we're...

RJ Kedziora (22:12.668)

Yeah.

Justin (22:13.614)

Yeah.

You have a problem, you create a solution, now you have two problems.

Michael (22:19.294)

I guess that does definitely walk us down this pathway of the challenges and limitations that we're finding along the way. You know, what other challenges are you seeing in this space of really being able to provide insights that matter to people?

RJ Kedziora (22:34.3)

I guess first getting access to the data and understanding what data is there and what data is not there. As we contextualize in the context of chronic disease, that nutrition data is still very challenging to get to make sure it's accuracy. Everybody is rightfully so worried about privacy, but HIPAA is not designed to prevent sharing your data.

You should be able to share the information. You have to actually secure it. Cyber security is very important. But the idea is to share this information and make it available. So you definitely need to consider it, but make that part of your overall program. And then change management. Like so many things in this world, you can't just throw a new software solution, new data project at something. You got to manage the change and make sure everybody's on board.

Justin (23:32.91)

Yeah, can't move fast and break things here. Yeah. Yeah, I really liked that insight that you just provided there. I really agree that, I forgot exactly what you said. I think it's something that'll be a good pull quote. Yeah, my train of thought slipped, but what was it? Yeah, it's gone now.

RJ Kedziora (23:35.552)

Mountain Health Care again.

Justin (24:01.102)

I think that's something we're definitely going to be pulling from this. Probably building some communication around, yeah.

RJ Kedziora (24:03.196)

There you go. Yeah. Cut.

Michael (24:08.51)

where we get the editing, all that fun stuff. So, you know, like, you've definitely talked about it from this. So from the, again, from the like therapeutic side, if you're trying to advise, we'll say medical device company, but just other companies.

Justin (24:20.462)

I remembered what it was. Sorry. I don't know. It's like, it was about how HIPAA is not meant to prevent the sharing of data. I feel like that is such a salient point that gets lost so much. You hear like, we want to build this. It's like, oh, what about HIPAA? It's like, oh, we abandoned it. We give up on the feature, right? And that happens so often that…

There's not the will to fight the regulatory and legal battles surrounding it, but it's a major loss of opportunity for the business, for the physician, for the customer, the patient. There's so much there where if you're not willing to figure it out and get it right, then we all lose out, I think. I love re -braining it to not think about HIPAA as an obstacle.

RJ Kedziora (25:06.524)

Absolutely. And the same thing with the…

RJ Kedziora (25:12.636)

Yeah, and the saying, lawyers have a job, I understand. But yeah, the goal is to share this data and help improve the health and well -being of everybody. Same thing applies with GDPR too. It's like you can share information. You have to tell people what you're doing with it. There's guidelines to follow and everything like that, but nobody's saying don't share information. You just have to explain and give the patients or even the general consumer the understanding of what's happening and the right to opt out of that.

Michael (25:44.318)

Along those lines, I guess, are you seeing any projects where, hey, here's a new digital health idea, new therapeutics idea, and then you have like a population within that group that says like, maybe they don't understand what HIPAA is supposed to do. Maybe they are too wary, where you see, I guess, like sort of that adoption rate stay lower than what you would like, and you have to really work to kind of get the patients on board.

RJ Kedziora (26:08.476)

I wouldn't even, not so much, you're always going to have those individuals. I think now everybody top of mind is generative AI solutions and we've been pursuing some of those

opportunities talking to various people. And there is a lot of fear, uncertainty, doubt around those. And what does that mean to make this available data, you know, to the gen AI solutions and stuff like that. So can we use chat GPT or Claude or, you know, Bard any of those systems and

So we've been talking to some people about pulling that in -house and running our own systems and things of that nature. But yeah, you get in a room with a bunch of lawyers and it's like, woo, AI. Again, can do really good things. You just have to be aware of the risks and manage them.

Michael (26:55.166)

Absolutely, absolutely. So let's say you need to advise a company. They've got data coming off of their devices, but they have not yet figured out like, hey, wouldn't it be cool if we did something with this? Wouldn't it be awesome if we made this, you know, turn this into something useful? I guess like just very elementary, very like fundamental kind of advice. Like where do you start? What's the process?

RJ Kedziora (27:19.644)

Yeah, I think two things. Nowadays, I tell everybody to use generative AI. Like, use it. It's not going to replace you, but people using it are going to replace you. So first and foremost, first and foremost now, use generative AI. Explore it. See what it can do. But from a more, you know, as computer science background guy, thinking of algorithms, stuff like that, when you're doing problem solving and looking at

defects and points, you start asking five whys. Like, why did this happen? You know, I didn't get to work on time. Well, why? I didn't set the alarm. Well, why didn't you set the alarm? So now in terms of the data and trying to generate those actual insights, ask now what? Okay, I have this data. Now what? Okay, well, I'm going to present this and I'm going to find useful patterns. Well, now what? What is that next step that you can take to really provide something meaningful?

Michael (28:19.614)

I guess how do you balance that? Like, so that's very much like starting on the data centric side. So, and then like, I guess if you'd start from the provider side, how do you kind of marry those, those ideas together? Do you, are they automatically going to overlap at some point? Or is that just wonderful if it does, like, I guess like how do you see that kind of play out?

RJ Kedziora (28:38.78)

Yeah, they do tend to overlap because the physicians or the people that are on the ground doing this day in and day out, they know what problems and challenges they're having. And just asking that question, you know, now what, you know, asking them the why question as well is definitely worthwhile and exploring that. Years ago, it was a diabetes project and we were doing medication recommendations and we had patient profiles with CGM data and everything.

be 10 trained endocrinologists, diabetes specialists in the room, and there'd be 12 opinions on what to do with that patient. I'd be like, okay, now what? What do do now? And so yeah, a lot of this is trying to figure all that out.

Michael (29:23.582)

Yeah, a lot of cats to hurt as well. So, RJ, thank you so much for the conversation today. This is really fascinating stuff and it's always fun to talk shop with other companies and other people going through the same. For everybody that listened today, thank you so much. For more on the Health Connective Show, please visit hc.show for previous episodes and Health Connective as a company. Thanks so much.