



Using Home Neurofeedback As A Solution for Mental Health

Cheng Ruan, MD
with **Aziz Kaddan**



Cheng Ruan, MD

For the next speaker, I want to introduce Aziz Kaddan. He is the CEO and co-founder of myndlift, M Y N D L I F T. It is an award winning brain health technology company. And Aziz has been a pioneer in this field of brain computer science interface, where we find how to look at the brain in specific ways and optimize it using the technology that we have as he serves on multiple businesses on their boards and non profit organizations. And as part of Forbes 30 under 30 list in Israel passions revolve around linguistics and design and behavioral change. And he holds a computer science degree from Haifa University. So we're gonna talk really deep about technology and I can't wait to introduce you. So let's welcome Aziz onto the stage. So I'm so glad to introduce you to the family that we have here on the online summit. So Aziz, welcome to the show.

Aziz Kaddan

Hey, thanks for having me.

Cheng Ruan, MD

Yeah. So when I first heard about your company myndlift, I was super skeptical being in the brain imaging in your feedback space. I wasn't sure how this is gonna be accomplished. And for those of you who are listening right now, who are confused. Don't worry when you kind of break it down a little bit. But I really want to start by just you know, asking we're in this world right now where we have access to technology and the people, the public are really trying to access technology enough so that they're not necessarily dependent on medications and finding the optimal solution right. And you know and a lot of people on the summit have kinda explained that health hasn't really transformed hasn't been transformed by technology as much as it should. But brain health is getting there. So what's the story of how mindless was created and what is myndlift and just kind of in your words how did the journey begin?



Aziz Kaddan

So it's good. So it's good just to relate to your first note. I can see why you'd be skeptical. I mean it's super pioneering technology and it seems sometimes too good to be true but that's the aim of building the company like building too good to be true products. But they're true and real and I know I hope that your skepticism is no longer there.

Cheng Ruan, MD

Yeah we'll talk about that. Yeah.

Aziz Kaddan

Anyway I'm glad to be here. Just the 30 of the story of how this company came about was a few years ago more than seven years actually when I was introduced to neurofeedback. And the reason I was introduced in neurofeedback or neuro therapy is because early on in my life two of my siblings were diagnosed with ADHD. And the one who diagnosed them and then prescribed a th demands for them. It was my own father is a pediatric neurologist that specializes in ADHD. And so after my siblings took these medications for quite a while we understood that I understood that you know while these medications work, they have you know tons of side effects and I could see them. And then of course I would ask my father what else is out there? I mean there's something out there that can actually help without these side effects. So he started pointing me towards different directions. But one thing was clear, you know, he said Look there's this thing called neurofeedback neuro therapy. Take a look at it. this is something that you know I believe can actually help. But my problem with it is that you know, I'm not willing to take your siblings to the clinic, you know 30 times throughout the therapy period and and spend so much time taking them in and out because the closest clinic that actually offered this where we lived was two hours away.

Yeah so it was a struggle. And so I said okay all right okay thanks for the knowledge. And I continued on my way there to kind of like experiment and understand what is this neurotherapy now in my background is well I'm trained in computer science. and so I was after understanding and you know experimenting or experiencing neurofeedback myself, I understood how to connect the dots. I looked at the market and I understood that well the only thing that you need to do is essentially make neurofeedback something that can be accessible from home but without compromising the clinical integrity because by the time we started the company there were tons of EEG. You know, wearable devices in the market claiming to be neurofeedback apps or devices and hence that's you know, where your skepticism came from, I would assume, but they would target you know, very noisy location on the scalp, like the frontal areas, you know, put on a game on an app and call it a day.

That's exactly the opposite of what we wanted to do. We wanted to actually bring the same type of training or therapy that is happening in the clinic with the personalization, clinical supervision, put it in an app that can be used at home but also make sure that the device that is hooked to this app is able to measure the brain activity from other areas of the brain and not only you know, limited to the frontal and temporal. So in other words, we took neuro feedback from something that was inaccessible, unaffordable in the clinic to something that is done from home without compromising the clinical quality. Now I'm sure that some of the audience might not know what exactly neurofeedback is. I'm happy to dive deeper into that, but that's essentially how the company came about. We started working with clinics who started adopting it and the rest is history now. It's used by thousands of providers all across the nation.

Cheng Ruan, MD

Yeah, well you know I'll kind of define neurofeedback really quickly because we did cover this in another segment, but for those of you who didn't see our other segment on neurofeedback with Dr. Amico, it's basically technology that personalizes a training program that's based on your brain frequencies and everyone has different brain frequencies and different analyses. But what's powerful about it is that as you train and as certain things occur and the brain changes, the programs change with it as well. So it's always a moving target and we're going towards the direction of improving the brain performance and that's the whole concept of neurofeedback.

And you right, you know, you know, going back to my skepticism is that, you know, we've done in clinic neurofeedback and it works well, but to do it from like a home setting, that's interesting. But I think the idea that I had is that you need a lot of really complex, you know, equipment that it's not really affordable to get good quality that and to get good quality results. Right. So how did you like start, how do you start looking at, hey, what's available right now because there's a lot of equipment there into like the simplicity of the, of what it is right now, how does, how does that transformation occur?

Aziz Kaddan

Exactly. You're absolutely right to do neurofeedback. You need to be able, you know, so it has two basic components in the neuro feedback to be able to measure the electrical activity in the brain. That's the most basic and to have good measurements. And as we know you know the EEG signals are you know can sometimes be quite noisy. In other words you cannot really interpret what's going on or they might give you false results unless the equipment is good and it's done well. So that's the most basic thing that you need the measurements to be accurate and they need to be correct. And then the other thing is that you need to connect these



measurements to some sort of a some sort of content which can be either a video or a game that the patient essentially uses and consumes but the content is controlled by the measurements of the brain. Right? So we need to have these two basic things and then the third one that makes this entire thing stick together is the personalization. The clinician needs to be able based on the measurements to decide what areas or what regions of the brain their training and which frequencies which brain frequencies are being trained. So if you have these three components you know you have a neurofeedback actual clinical neurofeedback training. The challenge for us was well you know you have good equipment in the clinic and that's expensive as you mentioned you know using the equipment that is being sold in the consumer market. That can be tricky because it does not guarantee quality and you need the quality of measurements.

The second thing was well how do you also create engaging content that will keep the user engaged and actually have the user use the product for you know a commitment. Like it has to be a commitment of 2 to 3 months until you see these good results. The third one was how do you still keep the tradition in the right So I'll break it down and how this happened. We used or still use the news device which is a brain sensing variable device that measures your brain activity from frontal and temporal areas. And we added you know because the frontal and temporal areas or you know these regions were not enough for us to get to do personalized training because sometimes you need to measure EEG from other regions, you know, occipital parietal. So you know, frontal temporal not you know, not necessarily enough. So to combat that to overcome it, we added an extra electrode to the muse that connects to the power plug. And then with this electoral this electrode can be put anywhere because it's a movable electrode. It's a wet electrode.

You can put it anywhere on the skull and suddenly you go from a locked, you know preset headset that is extremely consumer friendly but you know limited in terms of measurements to a headset that actually allows you to measure EEG or brain activity from any location that you want. So boom. First challenge overcome right? That was the first step. And without that we wouldn't have this product today. You wouldn't be using it with your patients right? You wouldn't because you're extremely limited. So that was the way that we unlocked it and I'm glad that we did the second one was the second thing was okay so people are going to use it at home probably they're gonna put on the headset they're gonna put on the electrode and they're gonna move a lot when they're doing it because because they're sitting at home you know you know they're feeling comfortable so there's no one telling you to stay still because e requires it is still and that's a big challenge. So how do you actually take these signals that you're now you're measuring from the brain? These signals are being interrupted by movements. You know facial



movements? Body movements and they really ruin the signal. How do you take it and still make something out of it? This is why where deep expertise in software and algorithms and signal processing comes in. Okay so that's the expertise of the team. Actually we know how to take these signals break them down even if it has noise, we know how to process it and still provide meaningful data and that's really like that's one of the trickiest parts, but we figured that out. So now we have two out of three, right? We have we have good signal that can be used at home. We added content to the app that basically games that you, you know, you can control with your brain activity.

And then to supplement all of this with the clinical supervision and the clinical quality. We've built a dashboard for clinicians to be able to monitor the data and to decide how to personalize the program and to decide for each patient. They get their own personalized program. You know what areas of the brain that training and what frequencies are being trained and therefore it went from a, you know, preset consumer looking headset into a personalized neurofeedback machine. You know, it's not a black box anymore. And that's that's really how we did it. And of course that was the reason why providers used mind list because now they actually have the flexibility to do whatever they've been doing in the clinic. Exactly the same thing. You know, good measurements and program personalization. Now they can do it also remotely at home using the power of the cloud and using remote technology.

Cheng Ruan, MD

It's amazing to have that sort of technology be accessible at a low cost the consumer. It is such a big game changer. And not only that, you know, I think that we really have to examine the way that that medical care is delivered. I mean, we're sort of in this new age of telemedicine, right? And that a lot of people you know, now prefer to either, you know, stay at home or at work and obtain medical care. And you know, that's exactly what we did in our facility. We converted hugely into the telemedicine space. And now we're, we're actually, you know, doing the mind lift and mind liv practitioner myself. And so having that accessible to people is really important. And the other thing is compliance and I used to hate to use the word compliance, compliance. And medicine basically means that how, how, how much people are willing to adhere to a regimen. And so I'm gonna switch the word from compliance to empowerment. And so I think people are really empowered to utilize this because they're using, you know, their phones, they're using their tablets, whatever. And it's at home and it doesn't take a whole lot of time. You're not wasting time driving and doing stuff. And, and it's, this is stuff like this is really changing how medicine, especially brain health is going to be really practice in in the future. And my hopes one day my hopes is that we're gonna be looking at technology first, prior to medication because right now it's quite the other way around this medication first and the technology. And there's



nothing wrong with doing both either. We have a lot of people doing both as well. You know, now what has been your feedback of people utilizing the device and, and the doctors that are using right now, like what is your like sort of aha moment that you realize? Hey, we got something special.

Aziz Kaddan

Fantastic. So, you know, obviously, you know, just really like to zoom out and understand what, you know, the work that has gone here and we've invested, you know, we're a technology company that works. So we're mental health technology company, Right? And so we're funded by VCS, and we have to invest a lot of effort, energy and money into building this. Um, and it took us years. So just to get the product in the market took us around four years and over, I think over \$10 million invested in the product just to build it. It's a lot of, a lot of work. And because the reason being, you know, we took something that basically you can only do in the clinic with expensive equipment and you need the presence of a professional all the time while you're doing it in the clinic to something that now you can use extremely affordable equipment, like never before and you can do it by yourself at home and you have the remote monitoring of a professional.

But that's a huge game changer and that, but to get there, it required a lot of development when we actually first introduced this to the market as we expected. There was a lot of skepticism from the professionals that already did neurofeedback in the clinic. I mean can this really work at home? I mean will I get good quality data? So we had to go and you know, do a lot of bad edition work to show that okay, here's mind lift data compared to gold standard EEG. That's how it compares, right? Like so you have nothing to worry about when it comes to the data quality. And then we added extremely advanced features in the dashboard to show, look you can personalize mind the same way that you've been personalizing, you know in clinic, no feedback. And we kept kind of so so customers started coming in, right?

People started okay. You know what lowering their guards saying, you know what, I'm going to be open minded obviously the first year or two when we launched this to the market, we got the early adopters, you know those that are extremely open minded, they wanted to try new things but they stuck with us. They're still using the tools today. We have people you know the the first customer that used mind lift, The first one that bought the first kit is still using my left till this day with with with their patients which is fantastic and and that shows what what was built here but we did not stop like I think and that's that's really the most exciting part, in my opinion. Is that okay? So we've built the neurofeedback machine. Right? So you have EEG that is being measured and you're retraining specific areas of the brain, you're improving attention, you're



improving relaxation, improving you know, anxiety symptoms and so on and so forth. But then what we did was we said, okay now we're getting huge database we have over, well now getting close to 10 million minutes trained on the system with over 400,000 sessions done right from, you know, from hundreds and thousands of clinics and tens of thousands of patients. What can we do with this data? How can we actually use this data to help in improving the product? And then actually bringing more brain health innovations so recently, and I'm super excited about it. We launched something that is called brain maps essentially visual representations of the electrical activity in the brain and how it compares to the population. So when you put the mind the equipment on, you know, you move the electrode from one place to the other. And then by the end of that process you get a report showing how, you know, your brain data essentially compares to the rest of the population. Now, you can ask me like, when we get the data about the rest of the population, we have a huge database and we use that to that purpose and it's an ever updating database that no one in the industry has.

Why is that? Because the industry kind of stayed still when it came to cloud technologies when it came to building databases when it came to actually using new advanced technologies in the field of nerve feedback. And this is when we came into the picture. So of course we took a lot of hits at the beginning but I think now you know we are we already established ourselves as you know a category leader in the neuro therapy field and you can take a look at the numbers they speak. I'm glad you know to say that they speak by themselves but definitely was not an easy path because you know the clinical market has its own ways of operating and it was kind of like a shock to the system but it's working. And so and that that really helped us and I'm really grateful to the customers that we have because that really helps us continue to develop the system further.

Cheng Ruan, MD

No, it's great. And you know what I think that for people kind of listening to this and then we're being super general right now about neurofeedback therapy. But let me tell you sort of my experiences on the system. So one of the greatest things about practicing medicine is that we provide something for the patient and the patient gives us a positive feedback on how they're doing right or a negative feedback is just as good because we know what not to do, right? And so I think that we utilize technology to try to obtain this data whether it's how they're feeling, kind of checking in with themselves how they're breathing. And what's great about this is that we're getting instant feedback into how people are doing far better than we can do, like a one on one doctor's visit or even telemedicine visit, right? We're getting like daily check in to see how people are doing and then and then and then providing the actual feedback so we know what works and what doesn't work and it's really fast and that and that level of communication and



that level of that interplay between the doctor and patient doesn't matter if it's neurofeedback or not that's not done right now in medicine right? For someone to have daily feedback on the patients of doing, it is not done in medicine. And so for for any technology to not just provide the feedback to see how we're doing, but also to get actual like physiologic data on the brain at the same time, correlating with how people are doing, that's sort of like that, that should be the new gold standard and especially they're doing at home, you know, so we don't wanna really applaud you for the because I was I was one of the skeptics at the very beginning to because I heard about a while ago, and I'm like, there's no way in hell this works. So, and so, but you're on the summit actually because of my experiences and my realization that, I mean, we don't we don't we don't even do in person your feedbacks anymore. We completely abandoned it just because this is so much more powerful. And I think it's far superior in my opinion.

And the other reason is that, you know, as more people do it, we get more and more feedback on, you know, most people do it for, like, attention deficit, but insomnia, That's a huge one. Like sleep issues, mood changes, all these things are happening so fast and people can see like on their app what percent they're improving in different areas as well. So even though people themselves don't cannot necessarily feel that are improving at the very beginning, but at least if they actually have a device showing that you're improving this at this percent of the time, it's turning words into numbers and anything, anything that turns words into numbers and the numbers back into the word's meaning that we get the electrical data and we're gonna turn back into are you doing better? Yes or no is absolutely valuable information, especially in Oregon as complex as the brain, you know? And so, and so, no, like this is, I feel like this is a lot of power to have to to to really be in the field of neuroscience. So what, what do you think? Well, first of all, are there clinical data right now specifically for mind lift and what are these? And then and what do you think of the limitations and getting more or are there any limitations at all?

Aziz Kaddan

Thank you. Thank you for asking that question actually, I'm excited to share that. We just published a peer reviewed clinical study on more than 560 patients that have done mind up and have shown the efficacy on mental health, including attention deficit anxiety and depression that study. You can find it, you know, you can find it in journal of Medical Internet Research just published recently and that's powerful clinical data. I'm not aware of any other clinical study on neurofeedback that was as large and as comprehensive. and those two were super, super proud of it. That was years in the making. So that's around the clinical data. But of course, you know, we don't stop there. We keep on, you know, collecting more and more and more data, running more studies just to be able to understand, okay, how can we take your feedback and optimize it further. But I think the major breakthrough is that so neurofeedback is fantastic and it's an



amazing way to really add more modalities and of course the more modalities or sometimes you need to combine modalities to get better and have better outcomes. But there's also you know along the way we figured out that we don't already know how to do neurofeedback but actually now you have a reliable way to do EEG at home and if you can take EEG at home measurements and integrate it into any type of mental health therapy, whether it's medications, you know surprise you know, CVT or other types of therapeutic modalities and allow the EEG to inform how the therapy should actually go or whether the therapy is progressing or not or whether the patient will actually respond to you know, therapy A versus therapy B. This is my the biggest breakthrough that the field of neuro therapy can have.

That's what we're working on. And I'm inviting, you know, any researcher professional that is interested in integrating EEG into the clinical practice to let us know. We're actually we want to collaborate with as many researchers as possible to build that because my opinion that's the biggest revolution that's going to happen in mental health. How do you connect brain produced data to any therapy and mental health and optimized as you said like turning the words into numbers but you know generalizing it to any therapy because right now it's kind of like a self contained field you know the neurofeedback. You know you're using EEG To measure the impact of EEG. Training but actually we expand a little bit that we use to measure the impact and to inform on the you know other therapies and not only or right and then you actually can get it into the mainstream more mainstream community right?

Cheng Ruan, MD

Because you're absolutely right? So what's happening right now in the world of mental health is that a lot of the data that's collected is really just subjective data meaning that how do people feel scores in you know different categories in your data? And that's how well that's all nice and well how does that translate specifically into like bring frequency patterns things that you can't control, things that aren't you know subjective like let's say if you're having a bad day then your score is probably gonna be worse on that day because of something external that happened. And that's the confounding factors within psychiatry right?

And so by putting putting those words into the numbers and asking no feedback we can say that hey you know you may be having a bad day and we can see your brains doing this well here's some factors as to why and putting that into what we can physically see it's you know it's better than like an x ray. It's better than an M. R. I. And it's better than a cat scan that we have right now because those are just seeing what we see from physically but we can see the actual patterns and I and I you know tell people it's like you know watching the matrix right? You see that the lines of code coming down and so we can literally see the lines of code when you're



coming down into bring frequency data. And that's the exciting part. Right? And it's not just neurology, it's not just psychiatry, it's just other things as well, you know? For example, we are able to determine brain signaling relating to like sleep apnea or relating to asthma relating to other sort of nine non neuro psych disorders. And I think the more data we get the better the better stories that we can tell, utilizing the data for for much larger data set. So I want to congratulate you on your study because what was it 560 patients? Was it okay for those of you who aren't in the science world. 560 for a data set is massive. It's the largest one I've heard of in neurofeedback specifically for the things that you guys are looking for, which is huge. I mean that that takes a lot to coordinate. So I want to congratulate you on that. And so and so what, so now that we see the vision, right? We have this digital therapy and it's beautiful and it's great and it's accessible to the public What do you think is going to be the biggest factor or help getting this technology into the hands of like commissions whether psychiatrists, neurologists primary care behavioral therapist so that the general public can have far more access. What do you think is that key?

Aziz Kaddan

Well you know EEG, so in my opinion EEG needs to be as ubiquitous as the measures we get from Apple Watch or fitness right? It needs to be as you know it needs to be similar to the vital signs that are measured when you're looking at a physical condition for example to get their major barrier EEG has been for two major barriers. One the setup of E. E. G. Is a nightmare. And so and that deterred a lot of professionals in the healthcare field from even thinking about adopting E. E. G. Technology just because you need to go and get trained in it and then trained and like the setup is a nightmare in itself. So that's already a billion. And so if you actually now make it easy to just you know put on a wearable device that sent to the patient's home automatically. You don't have to even deal with the logistics that you already took a huge part of it. Right? So now it's easier for you as a professional to think about adopting EEG as part of your clinical practice.

That's one but that's not enough because you can send EEGs to patients all you want if you don't know what to do with the data. That's meaningless because then the second part will be okay. So now you get this raw data about EEG And the different areas of the brain of the patient and how they know what are you see a bunch of numbers, you see a bunch of colors but for you to actually understand what's going on you have to go through you know EEG Training. And again that's another barrier. So the right way to do this and to get this out there is to deliver like to use technology with good interface to deliver insights based on what the software interpreted from the patients EEG And just deliver these insights headed to the professional simplified but with a lot of depth right? With a lot of scientific depth but just simplify killing the you know the



practitioner there's 1234 this which you should look at. These are probably the therapies that you know you should use with this patient because 1234. And and and that jump from just raw EEG Data to packaged insights. I can't even state how difficult that is. And that's exactly the technological leap that we need to have to be able to make EEG part of mainstream healthcare again from my view and that's exactly what we're trying to pioneer right now, and that's why my previous answer. Invited researchers, physicians. Anyone that's interested in this to talk to us, we want to collaborate with as many people as possible to make that happen. Because the moment that that happens, mental health changes. You actually add a objective dimension to mental health. That is easy, right? You're not because you can't really ask any patient to do F. M. R. I. That's not that's not realistic. But if EEG is easy, you can ask any patient to make to have an EEG scan, especially if the interpretations is also packaged and that's how I see.

Cheng Ruan, MD

Yeah, So let's just break it down a little bit. So whenever we say EEG, it's an electric electrical and stuff hologram. So for those of you listening, it's it's kind of like when you get an E K. G or ECG. at the doctor's office of your heart, you're really looking at how the heart is conducting that those signals and E E G is for the brain and brain is far more complex than the heart at conducting electrical signals. And so historically speaking, the EEG Has been used in the field of neurology to look at seizures and seizure disorders, but it has not been study that much in the field outside of neurology in terms of psychiatry and mental health disorders. and it's also not been used in any neurological disorders whole lot outside of just specifically seizure, for example. Alzheimer's dementia, gross etcetera, etcetera. We know these differences exist. but thus far it's been really hard to sort of make that correlation.

And so the whole idea here is, you know, if you're a person you're thinking, hey, you know, I'm getting little brain foggy, my attention is all over the place. I don't know what's going on with me. Can you just pop on a device at home and actually get data and just show it to your doctor and say, hey, this is how my brain compares to someone else's brain, right? That's similar to my age and gender. And this is how far away from the normal I am like, what's up with that? Right? Thus far, it's been almost impossible to get this information. I guess until recently. And so, and I think where technology really has to flies into sort of the mainstream type of type of medicine and anything that simplifies the process decrease to decrease the cost to obtain this data is gonna be, you know, absolutely crucial. If you think about it, let's say that my Apple Watch, for example, I want to know what my heart rate is. So I tap on my little heart button alright. And let's say, I want to know what my rhythm is.



Is there's an a fib analysis agent. Fibrillation analysis on the Apple watch I'm able to to to look at that but for the brain is just far more complex. But I think something like mind lift is really the closest thing we have to get. Like actual physiologic data that's easily accessible for you know for the brain and that's what's truly you know exciting right? And so,

Aziz Kaddan

And it's still like super early on but absolutely right? Like when you're tapping your Apple watch and you're seeing your you know your heart rate and your heart rate variability your you know you have benchmarks to know whether you're you're okay or you know needs more work. You need to actually do more exercise. You have benchmarks to understand how well are you failing you know compared to your age group and gender. With EEG You're getting absolute numbers that to you. Even if you're training EEG Sometimes might look abstract just because of how complex the electrical activity in the brain is by orders of magnitude compared to H. R. V. And this is exactly the challenge. How do you bridge that gap from absolute abstract numbers to actual insights? Just like you get on your Apple watch, a huge challenge. But that's the start.

Cheng Ruan, MD

And I love how you say that this is just the beginning which is getting started you know and hopefully by next year or the year after again, so many more major discoveries and so for those of you just want to check out mine, let's just go to myndlift.com. M. Y. N. D. L. I. F. T dot com. I like that there's sort of a blog section and also there's individuals who are wanting to look for my life practitioners. You can look on that as well. Go ahead and click on that tab in mind lift dot com. Once again it's M. Y. N. D. L. I. F. T dot com. So the last thing that I want to touch on is how has this company transformed your own view of looking at? Well just medicine in general, not just mental health.

Aziz Kaddan

Well you know the company has grown and I've also grown a lot as a person. And unfortunately like you know when I started the company I was more optimistic about the U. S. Healthcare system. and I because I knew less than what I know now that's the unfortunate reality. And so the way that you know my my views have transformed now I know that sometimes you can bring again, I'm sorry this is gonna sound pessimistic but it has to be put out there, you can create fantastic technologies sometimes that really change people's lives but in healthcare specifically if it's hard to understand who's gonna pay for it. This technology might not see the light and I've seen this happening all around me. I've seen many companies that's started and shut down a year 234 years, even though they were innovating in their fields, just the reason being, who was like, nobody was willing to pay for it, you know, players were not into it because



there was no Cpt code or professionals were not willing to pay for it because they can't make additional revenue as a result, and patients just wouldn't pay for it if it was not reimbursed. Like they had these, like that complexity of who's going to pay for it really limits innovation in mental health and in health care. And you see, for example, many companies that start trying to change healthcare end up being, you know, you know, they start wanting to change healthcare technology, they end up mimicking existing healthcare procedures that are flawed just on a larger scale. You see what I'm saying? So putting the technology aside, you know, like the concept of mental health or brain health improving it. You know, we've seen many companies come up, you know, and, you know, connecting between patients and therapists to do talk therapy, and that's that's fantastic. That's solving the access issue.

And there's a huge access issue and these are the companies that are able to kind of succeed in this flawed system because they're following procedures that are understood, right? Like, talk therapy is something that's understood it, right? People, you know, payers can swallow it, like everyone understands what that animal is. But the moment that, you know, a company comes up with totally new innovative technology that was not available before the path is a lot, a lot harder if you're not following or mimicking, you know, existing procedures. But then if you're mimicking existing procedures and you're just making them a little bit more scalable, then you're not really innovating. You're playing within the same square that was drawn to us for, for tens of years. Right?

Cheng Ruan, MD

Right. So I think that the way that the way that especially in the US, especially insurance companies work is that are looking historically, what has worked before in the past and how do you fit into that specific category? If you come up with a whole new category, it's really hard to even talk to the right people to get lots of proof unless you have valuable and really lots of data as well. And even if you have the data, it's still an uphill journey. And me trying to practice integrative health within the insurance market and all these years, I have a similar battle. We're not really trying to fit into some sort of model, trying to, you know, be innovative in the actual space and especially in brain health, right? And then and putting together the right minds to, to really understand how to improve the way that we're practicing medicine requires a big shift in the way that this is, you know, thought about and so but that's why you're on the summit. So we just want to reach out to hundreds of thousands of people kind of out there kind of listening to this, knowing that you're really witnessing a company like mine lift is really just scratching the surface at the beginning of what could be done for brain and mental health disorders. But anyway, I just want to thank you for coming on. This has been such an interesting discussion, valuable discussion and I guess that you've kind of made a believer out of me. I was the biggest



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skeptic in the very beginning. Sorry about that. But definitely, now I'm fully bought into not just the actual technology in the process, but where this where this is actually going is actually truly exciting. And hopefully it decreases the cost of health care, increases accessibility into the ever growing, ever ever growing mental health challenges here in the United States and the world as well. So, I want to thank you for being on.

Aziz Kaddan

Thanks for having me. Enjoyed it a lot.

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