Cyndi draft-leveled

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SPEAKERS

Cyndi Williams, Guy Clapperton

Guy Clapperton 00:07

Hello and thanks for streaming the Near Futurist, a show presented by me, Guy Clapperton. This is a fortnightly look at the technologies that are going to affect our lives in wait for it the near future. I'm aiming to lose weight and get fitter. Get in the queue I hear you say, and fair enough. But one of the things I'm trying to avoid is, of course, diabeetus, one of those so called silent killers, I don't relish the prospect of having to monitor glucose levels in my blood, and I don't imagine anyone else does. My guest for this episode helps to track behaviours that might lead you to have to do precisely that. She grew up on a farm in Nebraska and remains unafraid of hard work to this day. The hard manual nature of it taught her something about valuing yourself according to your work, something she's had to unlearn over the years, not necessarily within the family tradition, she decided to go to university, she left with a degree in engineering, and was working at Sun Microsystems, just as the internet was starting to take off. She then moved into starting her own business Quin with one n. And her name is Cyndi Williams. Cyndi, welcome. Thank you. It's good to be here. Excellent. Well, so first of all, tell us a bit about Quinn, where does the name come from and what does it do?

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Cyndi Williams 01:25

Quin stands for quantified intuition. And it actually is a nod to the work that people with

type one diabetes have to do every day making hundreds of decisions, really quantifying kind of based upon their own trial and error. So kind of quantifying their own intuition, you basically have to come up with an amount of insulin to take. So there are some medical formulas that can help you calculate that. But there's really no exact way to calculate that you kind of have to just account for: okay, I'm going to eat this and has this many carbs, I'm going to go for a walk, I'm going to pick the kids up at the nursery, and then you kind of got to come up with a number and say, Okay, this is the amount of insulin that would offset all of that. And so that's quite a challenging thing to do. People just make, as I said, they're making hundreds of decisions a day. And a lot of it comes down to trial and error experimentation and intuition. And so that's kind of where the name comes from.

Guy Clapperton 02:16

And the company's origin, you went from a staff job, the way I just explained it sounds, if you went for a start job, then suddenly founded your own business with this particular interest in diabetes, I'm sure it can't have been as straightforward as that talk me through how that happened.

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Cyndi Williams 02:32

So after I did several years in engineering at Sun Microsystems, I was at a company, later called Thoughtworks, which is a global software company about a $500 million business, I ran that business as their managing director in the UK, as well as their global software division for a number of years. And in doing that, there was a young engineer who had been living with Type One Diabetes for a number of years. And she and I kind of came together with a vision to basically make technology that would help people deal with this trial and error of these hundreds of decisions a day. And so we were working there together at Thoughtworks. And we left the company and set up the business and kind of that's how, how we got to where we are, she's no longer with the business. But we're now a team of 15 people and you know, kind of well on our way. But that's kind of how we got started anyway, two girls in a garage called the British Library, just doing lots of research and user research, as well as just understanding we're making a they're regulated medical device, Quin. So you need to work out how to build that and get it to market safely and legally. And so there was quite a lot that went into that. And the early days, just kind of the two of us together and built the team out from there,

Guy Clapperton 03:33

You make it sound so easy getting it sort of certified to the market legally. Have you gone

multinational? I mean, how many sets of regulations do you have to go through for anything like this?

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Cyndi Williams 03:42

Yeah, well, right now we're seeing the mark that allows us to trade in Europe. And we're also trading under the enforcement discretion of the FDA and the US. And so we're kind of quietly live there. And that's basically came with, you know, all the work that we did around the quality managers quality regulations that you have to basically kind of conform to. And so we did all that work kind of along the way as well. And so that's allowed us to be legal in the US, as well as in Europe. And we'll start looking at Australia, Canada and New Zealand later this year, and then look at Middle East as well. So a lot of work to do on but we've kind of done our groundwork on the regulatory sides. We've done a lot of the hard yards already. It's just a matter of kind of continuing to go from there.

Guy Clapperton 04:23

Thanks for that. So talk me through the app, what exactly can an app to that wasn't already available to you on your computer researching for Google, you're talking about all the factors you have to take into account. So what what if I had type one diabetes? Why would I need an app in particular, what advantages to give me

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Cyndi Williams 04:41

As I mentioned, if you're if you're have Type One, if you're taking insulin, you're making hundreds of decisions a day to keep yourself alive and well. And a lot of that is basically recalling what's happened for you in the past, trying to remember what happened five hours ago, 24 hours ago, weighing up all these different factors across activity and stress and your emotions and things that are going on around you and making decisions. And so that's an incredibly difficult thing to do. 90% of people in the UK who have Type One Diabetes actually are unable to achieve the recommended medical targets. Because of this complexity that I talked about in managing this condition. It's just a really, really difficult condition to manage, very complex and poorly understood. And so what an app can do and what our app does, Quin is basically a it's a digital therapeutic, which is for personalised independent self management of diabetes. And so this is about looking at the time when you're away from your doctor in your day to day life, and having to make these decisions and really not having a doctor there to help you and to guide you. And so we're taking data off of existing diabetes devices. So people have devices called continuous glucose monitors that are continuously measuring their blood glucose, or they

have devices where they're picking their finger and measuring their blood glucose that way, but they've got diet devices that they use to manage their condition. And we're taking data off the phone as well. So as well, so activity data, and the user enters some data, we use all that data, basically, we and we incorporate behavioural psychology, psychological, physiological factors, and to guide people to make decisions based upon what's worked for them personally, in the past. So as opposed to based upon what kind of the rest of the world does is use these sort of standard static medical formulas, which often don't work out in the right way, we actually just say, well, you're going to eat a burger, or we've eaten lots of burgers in the past, you've dosed anywhere from zero to five units of insulin for burgers, how much are you going to use for this burger? And we can look at: Well, what have you been doing in the last five hours? What you know, how much insulin Do you still have on board from past things you've done, how active you've been in the last 24 hours. And then we can go into your past and figure out what you did for that Burger similar to this situation that you're in now and give you a recommendation for how much insulin you might take. Or say, basically, in the past, you took this much insulin, and this is how it worked out. So it's all about basically using your past history as a unique individual to say, Okay, this worked out this way for you in the past, if you repeat it, now, it might work out the same. That's really in a nutshell, what it does is just records and observes as much as it can about you, and then guides you, personally to be able to make those decisions. Okay, it

Guy Clapperton 07:26

It strikes me that fighting diabetes is very much a medical thing. And of course, your background is engineering. I'm just wondering to what extent you've had to sort of learn or even become clinically skilled in order to make this this thing move forward?

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Cyndi Williams 07:40

Yeah. Yeah. So I mean, we definitely have spent a lot of time I mean, for me, personally, I had almost no exposure to diabetes prior to founding Quinn. And so my entry into it came into going deep into just understanding of the metabolic system, the endocrine system, how does it work all these different hormones and tissues and organs together to regulate blood glucose, I was able to relate that quite closely to my background in chemical engineering, which is basically all about regulating systems. So how is this complex human system regulating, and I had kind of a background in systems regulation to be able to kind of apply to that. So that was actually really quite useful. But the rest of it was really about bringing the right clinicians around us, we've got three brilliant, human centred empathetic endocrinologist diabetologists, working with us as part of our clinical advisory board. So they kind of overseeing and, you know, guiding what we're doing. We also, of

course, had to go deep into the medical device regulations and really understand, you know, what, what does this mean? Like, what, how do you cuz for us, we're co creating the star app gets created alongside hundreds of people with type one diabetes. So every month we put out a release, they give us feedback, and we put out another release, every release is like a CE marked medical device. So it's quite complex, what we've done in this co creation modes, we had to really go deep and understand the medical device regulations, and how to create within the bounds of what's legal, safe, effective. And so there was a lot of just rolling up the sleeves and reading and understanding and bringing in a lot of different experts and just, you know, drinking from the firehose, really about what diabetes is what causes it and because diabetes is such a complex and poorly understood condition, there's a lot of work to be done to just filter and understand and categorise and compartmentalise the knowledge that you're taking in because there's just a tremendous amount of stuff out there.

Guy Clapperton 09:28

Perhaps we could help any listeners who might be less than familiar with the topic. You work with diabetes type one, could you tell us what the difference is between type one and type two? I understand type two is the more common

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Cyndi Williams 09:39

Yeah, I mean, very at a very high level. Diabetes is an umbrella term for a symptom of chronic high blood glucose. So your blood glucose runs high, and you got to do something to bring it down. So underneath that umbrella term diabetes, you have another umbrella term, which is called type one diabetes and type two diabetes type one is basically your body He doesn't make enough insulin. So insulin is the hormone that docks on your cells and allows the glucose to be eaten out of your blood and be used by your muscles basically. And so if your body is not making any insulin or enough insulin, you'll be diagnosed with Type One Diabetes, you have high blood glucose, because you can't, your cells can't get the insulin, you can't get to the insulation, or sorry, can't get to the glucose because you don't have insulin. So that's type one. And then you have this other umbrella term, which is type two, which is probably 90% of the cases of diabetes. And that's when your body is not using insulin well, so you're making insulin, but your body's not using it well. And so that's, that's the use, it's about 10%, type one and 90% type two, that's quite crude classification. But that's generally how it is. And the challenges in diabetes is that really, you could imagine, you could actually have both type one and type two, you could have not enough insulin and not be using insulin well. And so it kind of gives you the sense of the kind of complexity that you're dealing with. And there's really a need for and there

are many scientists driving towards, you know, just a deeper molecular taxonomy, a deeper understanding of what is, you know, what is the root of these diagnosis of type one versus type two, if you think there's at different hormones and tissues and organs involved in regulating blood glucose, just saying not enough insulin, not using insulin that's quite high level, and general, actually, and there's a need for deeper level understanding. And that's really why we find ourselves, I guess, the situation that we're in, it's so complex. So the treatments are very exact, you know, you're kind of missing science for type one and type two, so you can't make exact treatments.

Guy Clapperton 11:32

[ad break] Do you want to sound as confident as my interviewee in this episode? If you talk to the press or other media, are you worried you'll be misquoted, or they'll just publish their story and not yours? Clapperton Media associates can help with coaching. drop me a note gani@clapperton.co.uk. And we'll arrange a time for an exploratory call. Now, back to the podcast. [ad break ends] How widespread is the problem of type one diabetes, the one that you're particularly targeting?

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Cyndi Williams 12:12

There are I mean, if you think there's 470 million people in the world living with diabetes, roughly 10% of those are type one, type one. So there's around 40 million people in the world who use insulin. That's kind of a very crude.

Guy Clapperton 12:28

That's fine for our purposes today. But I keep coming back to the idea that I tend to go to the doctor, if I have a medical issue, why would I go to an app company,

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Cyndi Williams 12:37

You still should go to a doctor if you have a medical issue. So we're not looking to replace? Yeah, yeah, we're not looking to replace doctors with apps. But you know, if you think about it, like in diabetes care, and specifically, it's true in chronic conditions in general. We don't, that most of the chronic care, diabetes care, chronic and acute care happens away from doctors, it's happening in your day to day life as you're going to your board meeting as you're picking up your kids in the nursery as you're out on your run. And so there's like the 1% of the time, where you're with your doctor of review, and your results every three to six months, and looking at how things are going and look at the bigger

picture. And then there's a 99% of the time you just live in your life. And that's really where apps can help it can. It's just this, how do you live a good life and be well, because like, the focus of your life isn't a disease you have the focus of your life is your life and enjoying your life. And so what apps can do a lot to take away, you know, the cognitive and the psychological load that comes with living with and managing life with a chronic condition. And that's really, you know, the role that we have to play in, in helping people live better and get better health outcomes with chronic conditions. So not to replace the doctor. But in that time, when you're not with the doctor, how can you live better?

Guy Clapperton 13:48

That makes a lot of sense. Although I have to say there has been some backlash recently, whether it's vaccine resistance or hesitancy I should say, or whatever else it is, there's has been backlash about the sheer amount of data we carry around in our phones. Yeah, I'm just wondering whether some patients might regard this as a step too far.

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Cyndi Williams 14:06

Yeah, I mean, any word and I might be one of them, to be honest. But yeah, I think that the onus is on us as app makers, it's people who are making use of that data to be respectful with it. And it's like, if we're asking you for data, or we're using your data, we need to give you value back for that. So you do need to have better health outcomes, and you do need to have better wellbeing and a better quality of life, spend less time on diabetes. And so it's really around, okay, if we're going to ask you for a bunch of data, we got to give you value for that we got to make your life better for that. And obviously behave and GDPR and be safe and, you know, legal in the way that we handle your data. I mean, that's kind of a given to me, but it's the real question is as a patient, what's in it for me, what am I getting, if you're going to take all this data off my phone, and you know, you need to get in our case you need to get a better life, better quality of life and better health outcomes.

Guy Clapperton 14:56

Well, it strikes me that in the crudest possible terms, And feel free to shoot this down in flames. And what you're actually doing is you're applying Big Data rather than medicine to an awful lot of symptoms and taking the big data and actually analysing it to give the patient some, perhaps some guidelines, or perhaps an assessment of what's likely to happen next, because of the way they've been behaving. First of all, do say, if you think that's an unfair, that's too crude, but or just inaccurate, but I'm just wondering if you could

apply the same thing to others conditions other than diabeetus. And whether this is actually the start of something bigger for your health apps?

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Cyndi Williams 15:32

Yeah. Yeah. I mean, that's absolutely right. And, you know, I, we're not ashamed of that at all. I mean, diabetes, science is very incomplete, we do not have a full understanding of what diabetes is, and what causes it. And that means that you have individuals filling those gaps in science day in and day out with their own trial and error. And that's a tremendous cognitive and psychological load. And any tools that we can offer to take some of that away and make someone's life better is that's, you know, a win. And so, absolutely, this applies to any condition where there's missing science, which is chronic conditions, because somebody's got to fill the gaps in that science. And so you can take what the base science that you have, and then the best clues you have about what how to help someone is to just observe their life. I mean, how are you filling these gaps day in and day out as an individual, let's take all the physiological data, all the different kinds of behavioural data sets, all the things we can learn from observing you and use that to fill some of these gaps in science for you. And that's, that's true in diabetes, but it's true. And you know, other chronic conditions as well. It's just, we have gaps in science. So there's only so far science can go. And thank goodness, we live in an era where we have these supercomputers in our pockets with all these sensors on them, we can get all this other information and use it to try to help people with their gap filling, and learn from their gut feeling and maybe even expand science to what we learned through that gap filling.

Guy Clapperton 17:01

There are an awful lot of health apps out there, some of which are reputable, some of which are not some which are built into my smartwatch, which tells me Well, I've been sitting still for longer than an hour and really oughta move. So obviously, the inventors had never heard of watching a movie. But I'm just wondering whether there's a danger of Queen becoming just another Health app? Because it's obviously very special to you. Yeah, yeah. I

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Cyndi Williams 17:23

Obviously, my answer to that is going to be no, because but what I mean, one of the things that Health app providers need to do more of is to really look deeply at engagement, and the correlation of engagement with your technology, and improvements in your health. And so you know, we have to be able to show Yeah, if you

use our app, 30 days out of 30, you are going to get the 20% improvement in your health outcomes, whatever, you know, particularly metric. And we can do that we say that. So for us, we are laser focused on creating an app that people will use, and that will actually improve their health outcome and health outcomes and wellbeing if they use it. And so that's all the onus is on all of us as Health app makers to be able to do both of those things, not just make you look at our technology and send you a message because you're sitting on the sofa, watching a movie, but like for that to be connected to some kind of improvement in your health and visible and noticeable improvement in your health, for having you having engaged in that message that says, Hey, get off the sofa.

Guy Clapperton 18:21

So okay, apps to one side, we can't discuss diabetes without at least mentioning what people should do outside of technology to keep their blood sugar at a healthy level level or improved blood sugar levels, you must have learned a huge amount over the years. So if someone were new to this, what would you be advising them to do the first sort of few headlines changes they might like to make?

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Cyndi Williams 18:43

It's so hard to tell someone what they should do in relation to diabetes, because as I've said, it's just so poorly understood. So it's like we're talking about a condition. I mean, this is an umbrella term, this could be hundreds of different conditions that we're calling diabetes right now. And so to be able to say what any one individuals exactly should do is very difficult. Coupled with, of course, they all have their own lives. And so it's like, there's so much research and evidence that says that if people if you focus on well being you can get to health. So it's like Focus, focus on living your life, well, results in better results in potentially better health outcomes. So it's so hard to say for you know, across the board, everyone should do it this way. I think honestly, the, in diabetes, specifically, the evidence shows that people engage, they do better and so, engagement in your own, you know, your own condition, man will help you to do better. But other than that, I really hesitate to give, you know, any kind of advice other than, you know, the usual stuff of, you know, see your doctor and looking after yourself. Because, you know, it is, as I said, such a complex metabolic derangement about which so little is known. And so for every individual, it's experiencing it differently, and what might work for one person won't work for another person. And so, you know, it's just a huge challenge. So I guess my advice would be, don't be too hard on yourself, and And enjoy your life and do what you can to keep yourself well.

Guy Clapperton 20:04

That sounds very cautious, but also very wise, I take the when you said to live well, you were talking about living the way where your doctor might advise you to live well, rather than the wine women and song model of living well, but that's perhaps my problem and the way my brain works. So I mean, finally, perhaps you could tell people, our listeners where they can find out more about yourself and Quinn and what you do.

20:27

On our website, we're at Quintech.io. We're also on Twitter, Instagram, and Facebook at Quin diabetes app. And we are we'd love to chat with people. So if they want to get in touch and just reach out we'd be really happy.

Guy Clapperton 20:42

Cindy Williams of Quin, thank you very much for joining me. Thank you.

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Cyndi Williams 20:45

Thanks for having me.

Guy Clapperton 20:50

And many thanks to you for listening. That was as always the near future is podcast with me Guy Clapperton. Don't forget to have a look at the website at nearfuturist.co.uk or if you're in the mood, my media training site at remotemediatraining.com. I'll be back as always in two weeks time