Podcast Transcript

Risk Never Sleeps Episode 36 Samantha Jacques

Ed Gaudet: Welcome to the Risk Never Sleeps Podcast, in which we learn about the people that are on the front lines, protecting patient safety and delivering patient care. I'm Ed Gaudet, the host of our program, and today, I am pleased to be joined by Sam. I wanted to call you Samantha, I don't know why. Sam Jacques, McLaren Health. Welcome, Sam.

Samantha Jacques: Thank you very much. I'm very excited to be here.

Ed Gaudet: Yeah, I know we've worked together for a number of years on the Health Sector Coordinating Council, among other initiatives. We'll get to those in a bit, but our listeners would love to understand a little more about your role in your health system.

Samantha Jacques: Sure. So again, my name is Dr. Sam Jaques. I am the vice president of clinical engineering at McLaren Health. So McLaren is a 13-hospital system in Michigan. I have urban hospitals, rural hospitals, you name it, across the entire state. And so, clinical engineering is the role that maintains all of the medical devices, so we manage about 90,000 devices across the state.

Ed Gaudet: Wow, that's huge. Do you differentiate between OT and medical devices, or do you?

Samantha Jacques: So we do. My span of control is mainly in the medical equipment. So things like the building automation systems or the tube systems, those are generally maintained by facilities, and they're traditionally just like we were in clinical engineering for a while, they're behind, right, from a security perspective. And so there's been a lot of focus these last couple of years on medical devices, but I hate to say OT things are even further behind than we are.

Ed Gaudet: Yeah. Why do you think that is?

Samantha Jacques: Mainly it's about when the technology started to get attached to the network. Medical devices got attached to the network more than ten years ago at this point, starting with physiological monitors, and we didn't know what we were getting into back then. We used to be on a separate network, and once it became very expensive to manage two completely separate networks and we started migrating to the normal IT network, we had to become much more involved in cybersecurity. The facility's equipment historically has never been attached to the network, and so now, with the advent of new building automation, all of the things that you can do remotely, that technology's really only started attaching to networks in the last five or so years. And so they just haven't grown, right, as much as we have. It's going to take time, but they're going to get to where the rest of us are soon.

Ed Gaudet: Yeah, no, that makes sense. So I've always often found clinical engineering in a separate organization, Biomed typically. Is that how it's structured at McLaren?

Samantha Jacques: It is. So across the nation, about a third of the Biomed or clinical engineering departments report to IT, a third of them report to facilities, which is a historical thing. We used to be wrench turners, just like the facilities guys were, and a third of them report anywhere else, right? You name it. I've reported to supply chain because we do a lot of maintenance contracts. We buy a lot of equipment. Currently, our report to our chief administrative officer along with legal and risk, and so it's a grab bag, I hate to tell you. There's very little standardization across the industry.

Ed Gaudet: Do you think that'll change?

Samantha Jacques: I don't. So it really depends on where the individual organization is from a maturity perspective. Very small organizations, rural hospitals, don't have the maturity to develop a program that really aligns clinical engineering and IT much better. Whereas large organizations, we've been there for several years, and so it really just depends where your organization is from a maturity perspective.

Ed Gaudet: Yeah, it sounds like an opportunity. So how did you get into healthcare, and how did you get into the medical device side in particular?

Samantha Jacques: It's a long and complicated story. Healthcare is actually a second career for me. So when I started, right, way back when I ended up getting my PhD, I taught in academia for 7 or 8 years, and I kind of did some stuff on the side with one of my colleagues in hospitals, right? We consulted a little bit. We worked on processes, and I never thought I'd leave academia, to be honest with you, but a role opened up actually quite far away, we moved cross country for it, but they required a PhD for their Biomed director, and there's very few of us that have any clinical engineering experience with a PhD. But they were a mature hospital who wanted to do a lot of research, and so they needed to understand their director needed to understand their PhD stuff. So about 15 years ago, I switched from academia into healthcare, and I've been in healthcare ever since. I absolutely love it.

Ed Gaudet: Yeah. And you've had some interesting background working at various places, right? So you were in Texas at one point. Pennsylvania?

Samantha Jacques: Yes, and now Michigan. So we've moved cross country. My poor family followed me wherever we go, bless their hearts.

Ed Gaudet: That must give you a little more. I don't want to say credibility, but you probably understand the language of the clinicians better with your background. Is that true?

Samantha Jacques: Yeah, it's very true. So my first hospital system was actually a children's hospital system.

Samantha Jacques (cont'd): And so, if you want to talk about having to understand the clinician, I think I learned the most in that organization. Medical devices are not designed for built for children. And so a lot of the time, what we were doing was modifying or augmenting or even going out and doing one-off things to go ahead and make devices work from a clinical perspective. So I work very closely with the clinicians, understanding workflow or understanding how they want the technology to work, which is a very different perspective from the way technology is implemented today. Right now, we go out, we find the bright, shiny thing, and we slam it home, regardless of the fact that it fits the workflow or not. And I think my background really comes at it from a very different perspective. It's not about the technology, it's about the people and process and whatever technology we can implement to then help those people and process become much more effective.

Ed Gaudet: Yeah. And how have you managed that change? Because I often find that that tends to be the biggest obstacle for technology adoption, right? People are so wedded to their old process, and they believe it's the best process, right?

Samantha Jacques: Yes, yes, and really, it's about education. So I think as a leader, one of my jobs is to really listen, and so I try and ask a lot of questions about what problem they're actually trying to solve, as opposed to what technology they're trying to implement. There are a lot of problems out there that the technology that we've chosen doesn't necessarily fix. It may, in a very roundabout way, but it doesn't necessarily fix the problem we're trying to solve. And so if you really understand the problem, we can then go ahead and address what that problem is, either via the technology or not, to be honest with you.

Ed Gaudet: Yeah, that's a familiar phrase for product managers in tech, right? What problem are we trying to solve? It's always the go-to phrase. So what are your top 3 to 5 priorities over the next 12 to 24 months?

Samantha Jacques: Yeah, so I hate to say legacy medical devices is probably the biggest. And it's the one that's been getting the most attention probably in the last 2 or 3 years.

Samantha Jacques (cont'd): We're aware of so much more risk than we have been in the past five years that I think understanding and quantifying that risk and then really figuring out how to mitigate it is the biggest priority we're looking at. After that, obviously, vulnerability communications, trying to figure out what's out there that we need to be worried about, and again, managing that risk from a regulatory perspective, trying to understand how to reduce the risk that we're seeing in the hospital perspective. I hate to say that's a big task. Both of them are very big tasks, but we have to start working on it because not knowing what's out there is not a path that we can take anymore. We can't hide our head in the sand.

Ed Gaudet: Yeah. How can you effectively protect those assets, if you will, if you don't know that they're available where they are or what impact they could potentially have on the organization?

Samantha Jacques: And those conversations are getting much more interesting to the point that you made earlier. I may know what medical equipment I have, but do we know everything that sits on the network? Do we know the IoT stuff? Do we even have a clue on some of the stuff we've hooked to the network over the years? And now there are some great tools out there to help us, right, identify and quantify that type of stuff that haven't been as mature in the past, and so I'm excited about some of the new technology.

Ed Gaudet: Yeah, there's a lot of advancements out there from the vendor community, which is great, and in partnership with the providers, which is excellent to see that. Yeah, it's funny you mentioned, and you know, legacy systems, I always think of end-of-life as the new oxymoron in healthcare. It's like.

Samantha Jacques: Well, I hate to say it's been around for decades. We've dealt with end-of-life issues forever. They've just become like, the new thing to cyber, and everybody throws the cyber word around it. We've been dealing with end-of-life since I started in this field.

Ed Gaudet: Technology doesn't die in healthcare. It just, it just gets patched. If you have enough money and enough resources, you can manage anything.

Samantha Jacques: Yeah, and that answer's no. I hate to tell you. It doesn't matter what health system you're with, that answer's no.

Ed Gaudet: That's right. Exactly. So how do you think we're doing as an industry post-pandemic?

Samantha Jacques: We're not as well as we should. I think those two things you just mentioned are very problematic. Most health systems post-pandemic are not financially doing well. All of our bottom lines are much smaller than they were pre-pandemic. And so the resources that we have to go ahead and actually apply some of the risk mitigations that we need just aren't there. And I know everybody will point to there's a dearth of cybersecurity talent. I agree we don't have the appropriate staff members out there. It's true in clinical engineering as well. The clinical engineering cybersecurity specialists don't exist, there's a handful of them, and we all fight over them. I think the next five years are going to be very interesting, not only from a funding perspective, but from a resourcing perspective and a talent shortage perspective. We have to get our hands around all three of those to really make big steps forward in the field.

Ed Gaudet: Yeah. Are there any obvious areas in clinical engineering where we could take costs out significantly? Have you thought about that, or are there any processes that could be automated better or?

Samantha Jacques: Yeah, automation is a problem, I hate to tell you, from a medical device perspective, because you don't necessarily want to push stuff while stuff is attached to a patient. Vendors have started looking at mechanisms for doing that, but the risks, obviously, are high, right? We don't necessarily want to automatically push something when a patient is on a piece of medical equipment. Some vendors have gotten there where it'll hold something until we accept it, but then again, from a timing perspective, that's obviously problematic. I think the biggest way that the industry is looking at cutting costs is really understanding standardization. So the way we've implemented medical devices across manufacturers is very unique. If talk to manufacturer A, it's very different architecture than manufacturer B than manufacturer C, and we in the health systems haven't helped this. The way I architect my network is very different than any other medical facility that we have across the country.

Samantha Jacques (cont'd): And so we've got all these one-offs, and that is very complicated for us to maintain. It's very complicated for the vendors to maintain. And so standardization is one of those ways that I think we can start driving cost out of the entire process. But standardization requires rules, and everybody hates rules, right? Nobody wants additional regulation. Nobody wants additional government oversight, none of that stuff. And so there's an uphill battle to get to that place.

Ed Gaudet: Yeah. You think we'll get there in our lifetime?

Samantha Jacques: To be honest with you, this administration, I have seen the most movement out of, and so there is hope. I'm going to tell you there is hope. I'm not necessarily 100% supportive of the way we're going about it. And, of course, as part of HSCC, we're trying to influence the way the government's going about it, but fundamentally, there's been more movement in the past three years than I've probably seen over the rest of my lifetime. So we'll leave Hope alive.

Ed Gaudet: All right, that sounds good. So let's go to HSCC for a second. You're on the executive committee for HSCC. What has it meant to you over the last couple of years, and how can people get involved, and what are some of the opportunities there for us as an industry?

Samantha Jacques: Sure. So for those of you that don't know, the Health Sector Coordinating Council is one of the public-private partnerships. So the government a while ago created 16 sectors across the entire United States, and these are critical infrastructure sectors. Healthcare is one of them. Without healthcare, we pretty much could not subsist as a country. And so, the Health Sector Coordinating Council is a group of individuals across healthcare. It's not just healthcare delivery organizations, but it's manufacturers, it's insurers, anybody that works in healthcare, and we help inform the government on what needs to be done for the sector. And so, that advocacy is incredibly important. I, as an individual health system, can't necessarily make the impact at the government level that we need to go ahead and get our voices heard. This is a mechanism for us to really get the advocacy across and understand exactly what we need as an entity, a healthcare entity, and push that from a government perspective. Now, I'm going to tell you, advocacy is awesome, understanding best practices.

Samantha Jacques (cont'd): The other thing that the HSCC really does is it really sets out guidance. And so those of us that work in the industry, especially in the past five years or so, you've seen this explosion of guidance that's been out there. That guidance doesn't get written without groups like HSCC. And so I'd tell you, if you want to go ahead and start understanding what the government is doing, if you want to start advocating for the direction it's going, or if you just have a desire to go ahead and help those in the community, right, and implement best practices, HSCC is a wonderful group to join.

Ed Gaudet: It's a terrific group, and one of the deliverables recently, the model contract language document, is so important to the industry. And for folks that are looking to standardize on contract language, take a look at that document. All right, excellent. What, I mean, I'm sure there's a lot here, but what keeps you up at night?

Samantha Jacques: Oh, man.

Ed Gaudet: Given your role, I mean, do you even sleep?

Samantha Jacques: No, to be honest with you, absolutely not. But in reality, I think what keeps me up most at night is what I don't know about. The moment we understand exactly what our architectures or entire environments look like, that would be great. But, you know, McLaren, like a lot of healthcare systems, has grown by acquisition. And so we have a lot of stuff that we think we know about, but we may not understand it 100%. And the acquisition phases generally take a while, right, to become standardized. And you have a lot of risk that's out there when you acquire anything, whether it be an individual physician practice or an entire hospital system. And so the risk for me is really in the, what I don't know, right? And what blind spot I end up having? Ultimately, all CIOs will tell you that. They worry about what they don't know. For me, probably the other thing that I really struggle with is the pipeline. What are we doing to get individuals into the field, and what are we doing to get them up to speed with what's going on? The learning curve is so large because everything changes so quickly. If I were to develop and present a course today at any university, it would literally be out of date by the time I'm done teaching it.

Samantha Jacques (cont'd): And so, that education piece really worries me. How do we find the appropriate people, and how do we keep them motivated over their entire career to continue learning stuff that changes at the drop of a hat?

Ed Gaudet: Yeah, and you almost need a systematic way to bring people into the organization, onboard them quickly, and give them visibility into not just the job at hand, but also the different aspects of the business that are unique to McLaren, right?

Samantha Jacques: Well, and everybody's desire is different, right? So what my healthcare system does is very different than, let's say, Mayo or anybody else that's out there. And so, getting individuals up to speed very quickly is very difficult, and then I hate to say, even finding them in the first place is nearly impossible. Also, the pipeline to me is something that really is a big problem spot that we don't have great solutions for at this point.

Ed Gaudet: Yeah, yeah. What been a tough couple of years for folks? What are you most proud of personally and professionally?

Samantha Jacques: Oh, so the last couple of years, I will say COVID was a very difficult challenge for those of us in the hospitals. And personally, for me, I came to McLaren in very late of December of 2020. And so we, for those of you that don't know, Detroit was one of the first hotspots in March of '21, so literally had been at my job 90 days. I've done all my meet and greets, I barely know anybody's name, and COVID struck. And so we had to adapt and overcome, we had to order equipment, we had to move equipment across the entire state. And then the state came to us and asked us to stand up, right, one of those huge stadiums that we could put patients into. Literally, my team is fantastic. They rallied around us, the supply chain team was wonderful. We figured out a way to do that with me having next to no credibility in my new system. And so I will say, healthcare figures out a way. We always band together and make sure that our patients are taken care of. But from a moment I'm proud of, right? I couldn't have done that, right, myself. I couldn't have done that without an appropriate team, without a group of individuals that helped us do that, and that's just a great story for me, personally, in my career.

Ed Gaudet: Yeah, that's when you really experience what people talk about the shared mission, when people come together like that to get the job done, which is amazing.

Samantha Jacques: Yeah, and they didn't know me from Adam, bless their hearts, right? And we were listening to me like had been there 20 years, so it was wonderful.

Ed Gaudet: That's cool. All right, let's go back 20 years, or more, I don't know. What would you tell your 20-year-old self?

Samantha Jacques: Oh, God. You know, when we're young, I think one of the things we think about is we think our path is set right. We think we choose a direction in our career. And I think one of the things I've learned over my entire career is that you don't have to be that person you thought you were going to be at 19, at 20 when you were selecting a major. I did it, I completely changed careers, mid-career. I took the leap of faith. You just have to figure out what's best for you at that point, and you have to have faith that you're going to be able to make it happen. And so if I were myself at 20, I would tell myself, you don't necessarily need the ten-year plan. You don't need to know what you're doing in ten years. You need to have the ability to learn new things and be open to new opportunities. You can decide yes or no when those opportunities, but unless you continue your life in a continual habit of learning new things, you're going to be stuck in the past. And so I really wish that would have been a thought when I was young, because the path that I've had is nothing like I thought it was going to be.

Ed Gaudet: Yeah, but that's what makes it a little interesting, don't you think?

Samantha Jacques: Well, and fun, to be honest with you, right? I'm one of those people that you, I don't want to do the same thing every day. I literally could not show up and do the exact same thing every day. And I found a career where that's status quo, right? There will never be two days where they're exactly...

Ed Gaudet: Right. You live through a pandemic. I mean, who can say that, right?

Samantha Jacques: No. Let's not do that again, right?

Ed Gaudet: Let's not do that again. Let's not do that again. Exactly. The hardest lesson in your career?

Samantha Jacques: Wow. So this one is interesting. So for those of you that are in leadership, you probably understand this. But the skills and the technical ability that you had as a kid, right, or that you learned right, those technical skills are not the ones that make you a successful leader. I can code like crazy. I can design whatever needs to be. You want to know how many times I've done that in the last ten years of my life in leadership? None. But I will tell you, if you want to be a successful leader, the skills that you need to learn are very different than your technical skills: communication, shared vision, and mission understanding, right, what the other person needs, figuring out how to influence individuals. Those skills are not skills that normal people in technical fields ever learn. And so if I had to again tell individuals where they want to be, those skills are things you need to continue to learn and grow with. Because if you want to end up in leadership and you want to leave your technical careers behind, you have to continue to grow and develop these skills that I will tell you, you never learned in your undergrad engineering degree. It doesn't happen.

Ed Gaudet: Yeah, that's great advice. Any additional advice to folks that are looking at pursuing a path in either medical device security, or clinical engineering, or IT in general?

Samantha Jacques: I'm going to tell you, get as much experience as you can get. The breadth of scope of programs and individual areas that you can specialize in is huge. And I will tell you, specialists used to be the way to go. You used to specialize in your career and live in that little niche for your life. The people I find most valuable at this point have a wide array of expertise. They've touched a little bit of everything. Maybe they're not a master of everything, but they at least understand a lot of the different areas. They're much more useful in their career, and they're much more successful because they understand maybe a little bit of networking and maybe they understand a little bit of medical technology and they understand a little bit of security, but they're not subject matter experts in anything. And for me, that would be a recommendation, right?

Samantha Jacques (cont'd): If you're going to go out there, learn a lot about everything and don't necessarily specialize because it really pigeonholes you to where you're going to go in your career.

Ed Gaudet: Yeah, and things change, like you said. So you specialize in one thing for four years, you get out and everything's changed by the time you get out. And also listen to and understand how to listen to business and speak that language as well, which is really people tend to, I see that gap often when I talk to cyber professionals and professionals.

Samantha Jacques: Well, and that's a really great thing to bring up. Fundamentally, as technical individuals, my background's in engineering, my PhD is in engineering, we love our tech speak because we feel like it makes us special. I've spent all this many years learning all of this tech speak, and therefore I'm going to go ahead and spew it at you to show you how important I am or how much knowledge I have. That doesn't work in the business world. I think one of the things that have made me incredibly successful is I go out and I learn the nursing language, or the physician language, or the security language. If you can speak and take your ideas and morph them into the language of the person you're talking to, you automatically get all kinds of street cred with them, right? You automatically gain their trust because they think you understand their world. And it's hard, don't get me wrong, I am not a nurse, I am not a physician, but I ask a lot of questions, and I think that's really what set me apart in my career.

Ed Gaudet: Yeah, and that's a really great point. And sometimes people use the tech speak as a cloak of invisibility as a way to sort of.

Samantha Jacques: Exactly. I want to steal that.

Ed Gaudet: Yeah, and you actually need much more transparency and much more visibility.

Samantha Jacques: Well, and I truly believe if you can't explain it using eighth-grade language, then you don't really understand it.

Ed Gaudet: That's right, that's right. Excellent. One last question here. This is the Risk Never Sleeps Podcast, so I have to ask you what is the riskiest thing Sam you've ever done?

Samantha Jacques: Oh, we probably hit on that already. Changing careers after being in academia so long. I actually applied for tenure and was awarded tenure like four months before I swapped jobs, right?

Ed Gaudet: Crazy.

Samantha Jacques: And to be honest, I had been married less than a year. I'd met my husband, we met in Wisconsin, we got married, we bought a house, we had been in our house less than a year, and I told him, I said, I'm not taking this job. We're going to fly down, I'm going to see what's out there, there's absolutely no way we're going to move to Texas. And literally, I came home and was like, sorry, love, we're going to have to figure this out because we're going to move to Texas, and so it was an incredibly risky move on my part. But I will tell you, those opportunities when they come along, if they're intriguing to you and they really speak to you on a mission and vision kind of level, I really recommend that you take that massive leap because it has been an incredibly rewarding career for me, and I don't know that, you know, had I not done that, I'd be as fulfilled as I am at this point.

Ed Gaudet: No, it's definitely a game-changer. Speaking of fulfillment, any hobbies or anything you're doing when you're not doing clinical engineering or HSCC work or anything ...?

Samantha Jacques: Yes, so I have a husband and I have a 12-year-old son, right? So we're in the middle of middle school, which is fantastic.

Ed Gaudet: Oh, tough years, the worst.

Samantha Jacques: But it's a boy, so thank God, right? It's a boy.

Ed Gaudet: I had three girls, and high school was the worst.

Samantha Jacques: I'm so sorry, but we travel, we're a huge international traveling family, so we on all kinds of crazy places. My son has been to countries that I don't know that I would have ever gone to as young as he was. And so we recently got back from Iceland, which was absolutely beautiful.

Ed Gaudet: Cool.

Samantha Jacques: You know, pre all of the war in Ukraine, we were in Moscow, we were in Australia. We've been all over the world and that's really what we save our pennies for, is to go on these crazy vacations that expose him and us to just different parts of the world.

Ed Gaudet: Yeah. Favorite place, do you have one?

Samantha Jacques: Oh, probably the Azores, which for those of you that don't know, is a small island chain in the middle of the Atlantic, kind of like the Hawaii of the Atlantic, but it's owned by Portugal, so it's part of Europe, but absolutely beautiful, beautiful set of islands, right, with 70 degree weather nearly all year round.

Ed Gaudet: Really? Oh, that's a good tip I'll have to check out. I've been going to Aruba recently. Yeah. Have you been to Aruba?

Samantha Jacques: Yes. Caribbean is absolutely fantastic. The culture down there is so wonderfully laid back and different than here in the States.

Ed Gaudet: That's so true. And Aruba in particular, they really know how to cater to Americans, so they figured it out. And being a Dutch island, and it's just it's a great place. We love it. And people are awesome. Well, great. This has been terrific. I really appreciate your time. Any last comments or thoughts for folks?

Samantha Jacques: No, and I do want to thank you. I think, you know, you and Censinet have done a wonderful job trying to move the cybersecurity world forward. And so this has been an honor, and I really want to thank you and your organization, because you're out there doing what we've been asking you to do from the provider side. So thank you very much for that.

Ed Gaudet: Well, it's certainly my pleasure and an honor to work with you and everyone at the HSCC and the 405(d) and HHS, and so it's been a great journey so far. Well, this is Ed Gaudet from the Risk Never Sleeps Podcast. If you're on the front lines protecting patient safety and care delivery, stay vigilant because remember risk never sleeps.

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