

Inside the OUTcomes: A Rehabilitation Research Podcast

Episode 6: Becoming Shirley Ryan AbilityLab

SHARON PARMET, HOST:

Cultural change is a marathon, not a sprint. When faced with big changes, perceptions and attitudes can shift before, during and afterwards. And that's exactly what happened as the Rehabilitation Institute of Chicago, ranked number one in America since 1991, moved across the street into a new state-of-the-art building designed to bring clinicians and scientists together and became the Shirley Ryan AbilityLab, the first ever translational research rehabilitation hospital. The thing about a research hospital is that well, it's full of curious researchers. And so during this major transformation, which took place in 2017, researchers studied how perceptions and attitudes changed among clinicians before during and after the move, and they uncovered some hoped-for and some unintentional results.

Today I'm joined by Dr. Rick Lieber, Chief Scientific Officer and Senior Vice President of Research and Dr. Marian Rafferty Director of Implementation Science both at Shirley Ryan AbilityLab. Doctors Lieber and Rafferty, along with their colleagues, led the investigation into what clinicians thought as the Rehabilitation Institute of Chicago became Shirley Ryan AbilityLab. They published their findings in a March, 2023 paper in the archives of Physical Medicine and Rehabilitation. Welcome to the podcast doctors Lieber and Rafferty.

DR. LIEBER:

Good to be here.

DR. RAFFERTY:

Thanks for having us.

SHARON:

My pleasure. Dr. Lieber. I want to start with you. Can you tell our listeners who may not be as familiar with the Rehabilitation Institute of Chicago or Shirley Ryan AbilityLab, what it is what it was? What was the thinking behind the drive to change from the Rehabilitation Institute of Chicago into what we are today as Shirley Ryan AbilityLab?

DR. LIEBER:

Sure. Well, the Rehabilitation Institute of Chicago was novel in its inception in the 1950s because rehabilitation medicine was in its infancy post World War II. So the idea of having one place where patients could have inpatient rehab and outpatient rehab, and it would be its own medical specialty, was a big deal. As it developed, it started to outgrow its space, we hired researchers so that we could be doing work on our own patients. Joanne Smith was a resident at RIC and had become the president and CEO. And she had this new vision, we knew we were going to build a bigger spot. And as Joanne said, often we didn't want to just build a bigger RIC, we were going to do something very different. We were going to secure funding from named donors, which turned out to be patent Shirley Ryan, and have a new vision to co-locate researchers and clinicians in a research space, specifically, to support translational research, not to publish more papers and get more grants, but to actually change the way we treat patients.

SHARON:

So you know, this major change is coming. There's a new building, there's a new model, what did you expect would happen? And how did you plan to study it?

DR. LIEBER:

Well, I guess I should say, I mean, I'm a nerd. Obviously, I'm a scientist and nerds do things a certain way. And I, you know, as we were designing and building the hospital, I started thinking about how are we going to make the case to people that it works if it does or doesn't work if it doesn't, and if it doesn't work, what won't work about it?

So I started learning actually, I'm a muscle physiologist by training, I started learning from people like Miriam about this whole discipline of implementation science. And I knew we had to study ourselves. And you know, you're talking

now about 2015, maybe 2016. And I thought, well, we better start studying ourselves now. So that we can know what does change if anything does change. So we started talking about this whole idea of co-locating clinicians and researchers, how would you study and what questions would you ask who are the different stakeholders? And we basically decided to, I would say recruit people like Miriam, implementation scientists and her colleagues, to help us ask the right questions of our own people regarding this new vision.

SHARON:

Dr. Rafferty, this is where you come in as director of implementation science. Tell me a little bit about what you decided to measure and how you went about doing it.

DR. RAFFERTY:

Yeah, thanks. So implementation science is a methodologic field that borrows from psychology and behavior change and organizational and business culture. So I was pulling kind of information from these other fields to study rehabilitation medicine, and traditional rehabilitation medicine, and was thinking about physiology, or biomechanics. And so this behavior change and organizational culture was a new kind. It was a new area for us to study.

So we initially wanted to look at three key variables related to our clinicians. We wanted to see whether their attitudes towards evidence-based practice changed. Now that they were co-located with researchers and saw researchers all the time. Evidence-based practice is essentially a culture of scientific examination. It's asking questions and providing evidence-based interventions and studying those, you know, measuring the outcomes, sharing the results and discussing that. We also wanted to examine whether they were doing evidence-based practice differently. So not that kind of how they felt about it and what they were doing. So we used to self-report and measure on the use of the principles of evidence-based practice related to the change. And at the time, we kind of called it the new Shirley Ryan AbilityLab model of care, which we defined as integrating researchers into a clinical environment with a goal to accelerate innovation and evidence-based practice. Instead of creating our own surveys, as I said, we kind of borrowed from these other fields. And we took some surveys that were longer but valid. And the first thing we did was shorten them, because we had a lot of questions to ask. And we shorten them. We validated that in our first survey. Over time, we surveyed over 1,000 team members who are in a variety of roles: clinicians, we also did survey researchers and leaders and support staff for other studies. But we surveyed them one to two months before we moved to capture kind of what they were thinking might happen. We surveyed them, again, seven to nine months after the move. And then two and a half years after that. We had a 65% response rate at each of those time points. So we feel like we really engaged our staff in these surveys. You know, when you email out a survey to just like a blind email, you might get 5% response rate. So we really, we really targeted to try to get people to respond so that we could learn more about their experiences.

DR. LIEBER:

I was going to add one important thing to what Miriam just alluded to - the idea that we had tremendous support from leadership. So we had various bribes to get people to complete the survey, we had complete organizational buy-in. I think if we had just tried it ourselves as a subgroup within the hospital, we probably would have gotten maybe 5, 10, 15% buy-in. But the organization, first of all, at the highest level, at the CEO level, Joanne Smith, agreed that yes, we need to do this, if we're really going to be a research hospital, we should act like a research hospital, and doing things like surveys, which costs a fair amount of organizational calories is very important, and maybe even necessary, if we're going to lead our field.

SHARON:

Right. So you put a lot of effort into these surveys, you put a lot behind it, get a little incentives, and you got a great response rate. So you feel fairly confident that you're capturing really what people are thinking and feeling before, during and after the move. So this is a broad, I think 400 clinicians completed the survey roughly at each time point. That's a lot. That's really a lot. So after, after you've collected all this information, what were your main findings? What did people what were clinicians thinking before, during and after the move?

DR. RAFFERTY:

Yeah, so one thing that we noticed right away in this was not surprising to us was that our clinicians' attitudes towards evidence-based practice were fairly high at the beginning. Rehabilitation Institute of Chicago was a great place, it was

a leader in our field. And so it's not surprising to us that the clinicians valued evidence-based practice, we did notice that they were stable also, across all three time points, there was no change over time in our attitudes towards evidence-based practice. However, what was interesting to us was that we noticed that there were differences between different disciplines. So notably, the physicians at our organization were actually slightly less open to try new protocols and new evidence-based practices than our allied health clinicians and our nursing staff that was kind of about their attitudes towards evidence-based practice. We did, however, see a change in time over self-reported use of the principles of evidence-based practice. And this might be a better measure, because when you ask people how they feel about evidence-based practice, they're going to tell you they like it. Because if you like, what would you say like no, I don't like evidence-based practice, that just like that doesn't make sense for any clinician.

DR. LIEBER:

That's the wrong answer. We all know that.

DR. RAFFERTY:

We did make sure that everything was anonymized really well. So if somebody did want to tell us that they could tell us that without fear of reprisal, but the questions that we asked about, do you like how often do you measure your outcomes and share those outcomes? How often do you go to the literature that might be a little more interesting to what we were trying to get at change in behavior? So we didn't know what is a significantly increased self-reported use of the principles of evidence-based practice at time three, this is two and a half years after.

SHARON:

Right. That's after you've had a chance to settle in and get used to the idea of co-locating researchers together with clinicians.

DR. RAFFERTY:

Yeah, yeah. So that's compared to six months after the move. It wasn't significant. But there is a little bit of drop off there, we definitely saw a drop in some other measures that six months after the move, which was, I think, a little bit surprising to us, we had thought that, oh, we'll wait for six months after the move. And by then the dust will have settled, we know that there's disruption in a big physical move and physical change and organizational change like this, we thought disruption would be settled by six months, that was a little naive of us. Six months, I think we were still in that dust-settling period. But over time, a lot had changed. I mentioned kind of how we did see some things dropped at six months, when we were looking at the big picture.

One of the other surveys we did was called the Organizational Change Recipients Belief Scale. This is a scale about like what people feel about the change, like, is this change going to be good for me? Is it change going to be good for my patients? Do my peers like this change? Those are the types of questions. And that was something that we actually did see drop immediately after the move or six months after the move. But that had rebounded by that two and a half years later, that was back up to kind of where it was at baseline where everybody was. So at baseline, everybody was really enthusiastic. Right, right. Well, maybe not everybody. A lot of people were very enthusiastic and looking forward to the bright and shiny future. And by three years later, they were back at that point.

SHARON:

Yeah, yeah, that's that kind of makes sense to me. Because any big change at first, you might be all excited. And then it actually happens. And it is a change, and you have to acclimate to it.

DR. LIEBER:

Yeah, I was just going to add one thing to that I'm not a clinician, I'm lazy. I said I'm a physiologist. And I don't think I appreciated the qualitative difference among the clinicians. And I think one of the things we've learned is that the physicians have a different role in a research hospital than the allied health people. And in many ways, physicians are poorly positioned for it based on their workload, work structure, pay structure, time requirements. The allied health individuals often have more time or can collaborate in new areas, because they are generalists. And they can take on, say, new research projects very readily. So I would say, one of the things I learned that was very interesting is that

our practicing research clinicians are in large part allied health people, rather than physicians, like say, leading a top-down approach to a research project.

DR. RAFFERTY:

Yeah, Dr. Lieber, that's a great point about the discipline-specific differences. I mentioned earlier about how the physicians were slightly less open to try new protocols. But when we looked at the evidence-based practice questionnaire, and how much they reported that they actually use the principles of EBP, or evidence-based practice, the physicians and the allied health clinicians did have higher evidence-based practice use compared to the nurses. But then looking big picture, the nurses were actually the group that was the most excited and most accepting of the change coming. So I think like, you're right, there's really kind of microclimate or micro-cultures within each of the disciplines.

SHARON:

So there were all these physical changes, you're moving into a whole new building, you've got researchers and scientists and clinicians co-located in the same physical space. That's a huge change. I know that you had some organizational changes as well to kind of synergize and spark translational research. Can you talk about those?

DR. LIEBER:

Sure. Well, my partner in crime is Jim Sliwa. Jim is the Chief Medical Officer. I'm the Chief Scientific Officer and working with the Chief Executive Officer, Joanne Smith. We started talking about ways to enhance these interactions. And about a year I think before at RIC, we realized, you know, the researchers are on totally different floors. I don't even think these people know each other. So we created these things. We call it roundtable, where we would all get together and talk about a particular topic like Botox injection, something that scientists would care about and clinicians would care about. And as you would expect a lunch meeting. All the doctors have one table all the therapists and another table all the scientists in another table, listening to these discussions, and then talking about okay, where do we go from here, which was fine and interesting, and functional in the sense that at least we got to know who each other were and, you know, have some interesting discussions, but they weren't going to change much about translational research in our hospital. So, as we got into the new hospital, things started happening naturally, because of this physical co-location.

Innovation, that very early stages has to be catalyzed, nurtured, enhanced, encouraged. How can we do that? And so we came up with this idea, called the IDEA Lab, where somebody has an idea, it can be a doctor can be a therapist could be a nurse could be a housekeeping person. But that idea could be vetted, because as we all know, most ideas aren't good. Once they stick, they don't stand the test of time or scrutiny. So what if we just had people throw out ideas, get feedback and said yes or no, should we keep going? So the Idea Lab was born, where you have an idea presenter, people with technical expertise, clinical expertise, organizational expertise, even entrepreneurial expertise, to evaluate that idea. And if it goes forward, great, it goes forward. If it doesn't, if it dies, great, it dies, and we go for a new idea.

And those Idea Labs then spawned other similar things, which would fill the gaps between say that in a round table, we realize what good does it say, What good does it do to have a person have a new idea if there's no funding to help them? Or if they have no time? So we created catalyst grants that would pay for people's time or pay for the ideas, and lots of things in between.

DR. RAFFERTY:

I'd love to add, you know, in the surveys, we also ask some open-ended questions from the clinicians. And they think that this point that Dr. Lieber is sharing is really important that the interactions were so important. And at time two, and time three, we kind of saw some changes and trends. With the open-ended questions were at time two, people were worried, they felt like they had an expectation to do interactions and to talk to each other. But I think they still maybe didn't know what to say, or they didn't feel like they had time for those interactions, they requested more time, which is money. Time is money in the business of medicine. And so we needed to figure out ways to have protected time for our clinicians to have these meetings, because some of them happen organically at the watercooler. But they happen more often in research in meetings. And if you want a clinician to attend a meeting, that's not at seven o'clock at night, we need to protect their time during the day. And so I really kind of am indebted to the vision of Dr. Joanne Smith. And then the advocacy of Dr. Lieber and Dr. Sliwa to make this happen through a variety of mechanisms. Our

professional development and internal staff development created a professional development structure by which the managers had more time to give to senior and master clinicians to have these interactions with our researchers. So that was happening on the clinical side. But then there was also the activities on the research side to get funding so that clinicians can apply for projects and grants to really engage with the researchers. And I think that all of these things put together are some of the reasons we had that success and starting to see a change in culture at time three. And now even like three years beyond that, we're still seeing growth and changes in our culture.

DR. LIEBER:

Right. I was gonna add to that, that I think one of the things that's become very obvious to me, especially looking at our scientists, here in the hospital, and then at meetings, the clinical IQ of our scientists has grown tremendously. I mean, we had people here studying, for example, you know, literally unit activity and stroke patients who really didn't recognize what a stroke patient's problems were, the classic Idea Lab would be scientists coming in there with a great idea to solve a problem that wasn't really a clinical problem. And the clinicians would say, I get that you can measure it, I get that you could probably even change it, but our patients don't care. And you know, when you hear that kind of thing, that scientists who is kind of it's kind of offensive in a way, because that's, you know, my life was all about motor units and stroke patients. But, you know, let's be honest, if the patient doesn't care about it, why are we spending all this time and energy on?

SHARON:

So Dr. Rafferty, you're an implementation science, you've told us a little bit what that is about, how did you get into this field?

DR. RAFFERTY:

So I was a physical therapist at the Rehabilitation Institute of Chicago when I first started, my career as a physical therapist. And after working for a couple years in the clinic, I kind of got a research itch. And then I started working in a research lab 50% of my time, and in the clinic 50% of the time. That helped me learn about research, but I was still seeing a lack of translation. And I thought that the reason the research wasn't translating to the practice to clinical practice was because I didn't understand the neuroscience. It was we were looking at drugs and how they affected walking and I thought maybe I don't understand how these drugs are affecting walking because I don't know neuroscience well enough. So I decided to get my PhD in neuroscience. And in my PhD, I was studying more traditional randomized controlled trials of how exercise changes the brain. And this was great and these exercise programs were so great. They were so great that they paid for people's gym memberships, they paid for their personal trainers and their exercise programming. And they paid for monitoring the patients for two years, I learned a ton about neuroscience and how exercise changes the brain.

But I got so frustrated, because that's not the way PT works. So physical therapists were not able to translate that evidence into practice, not because of lack of knowledge of the neuroscience, or lack of knowledge of the research, but because that's not the way the healthcare system works. And so I switched gears on my postdoctoral fellowship to get training and health services and outcomes research with Dr. Alan Heinemann, who's also a co-author on this study, and Dr. Hendrix, Brown and JD Smith. And they're experts in implementation science. And so Dr. Smith and Dr. Brown really introduced me to this new methodology. And I thought this is what was missing from my earlier kind of clinical and research practice. And so I decided to focus on implementation science as I developed my research career.

SHARON:

So implementation science allows you to use your clinical knowledge and ensure that that knowledge and those findings from your research got into practice with patients.

DR. RAFFERTY:

Exactly, I kind of have this really unique position. Because I have my degree in neuroscience, I can speak research. I am not a muscle physiologist, but I took enough cellular and molecular classes to be able to have a conversation with Dr. Lieber. I'm not a biomechanist or an engineer. But I took enough classes in the like, on the side of signal processing to understand why they think what they're looking at is really interesting. But then I also speak clinician so I can kind of tactfully turn the conversation towards clinical implementation and what's really important to clinicians as well.

SHARON:

I want to end with a quote from Lao Tzu that I think really encapsulates the spirit of Shirley Ryan AbilityLab and the drive to study not just rehabilitation and rehab outcomes, but the organization itself. And that quote is, "He who knows others is wise, but he who knows himself is enlightened." Thank you both for being on the podcast.

DR. LIEBER:

Pleasure

DR. RAFFERTY:

Thanks for having us.

SHARON:

This has been INside the OUTcomes: A Rehabilitation Research Podcast. This podcast is supported in part by the National Institute on Disability, Independent Living, and Rehabilitation Research. You can learn more about the Center for Rehabilitation Outcomes Research by visiting our website at sralab.org forward slash research forward slash labs forward slash CROR. Be sure to follow us on Facebook at rehab outcomes all one word, or on Twitter at rehab underscore outcomes. This is your host Sharon Parmet signing off. I hope you'll join us for the next episode.