

HealthBlawg :: David Harlow's Health Care Law Blog

A Conversation with Glen Tullman, CEO of Livongo at The Partners Healthcare Connected Health Symposium, October 2016

David Harlow: This is David Harlow at HealthBlawg and I am here today with Glen Tullman, CEO of Livongo. Welcome, Glen.

Glen Tullman: Good morning, David.

David Harlow: So I wonder if for starters you could give us a thumbnail sketch of Livongo and what brought you to this company?

Glen Tullman: Sure. Well, Livongo is all about empowering people with chronic conditions to live better lives. We are beginning with diabetes, but it's really a focus on providing people with tools in the form of technology and support that allows them to better manage and take control of their chronic condition, whatever that might be. And you know this really stems from some research. I am a social anthropologist by training and I have this crazy habit of surveying people and asking people what they actually want. And we did that with people with chronic conditions and it was very surprising because what they didn't want was to be more engaged with their chronic condition. They didn't want to spend more time on their diabetes or on their high blood pressure or on their depression or whatever it might be, they wanted to spend less time. They wanted to spend more time on living their lives, on their families, on their careers. And so what they wanted was a set of tools, technology, services that would empower them, that would let them be in charge of that, not the other way around. And they surely didn't want to spend more time.

So if you have diabetes and you already have to check your blood sugar and you already have to write down the results and you already have to order strips and you have all these tasks that someone without diabetes doesn't have. And now someone comes along and says, we have this wonderful new technology and you have to do twice as much work, well, no wonder they have been rejecting it. So we said, how do we let people live their lives, how do we use technology to make it easier to manage your condition and live better? And that's really where the idea of Livongo came from what they said which was, we want to live our lives and live on the go, hence "Livongo," living-on-the-go.

So that was the background, now there are a lot of people who say, well, it's so nice that you did this because you have a son who is diagnosed with Type 1, when he was 8, he is now 21 and doing well. And a mother who had Type 2, so I was surrounded by this disease called diabetes. What was striking to me was how hard we made it for people to stay healthy. We charge them for strips, to check their blood sugar and but we wanted them to do it more and checking your blood sugar is no fun you have to prick your finger -- it hurts. And then we had them write it down and then we made it difficult and all of this and so I said: How can we use technology to make it all easier? What if someone never had to order strips again in their life? Well, that would be a good thing. We asked

people and they said that would be awesome, that would be amazing. What if the meter would light up so in the middle of the night you wouldn't have to turn on the lights when your significant other said, "Why you are turning on the lights and waking me up?" What if you never had to log all of your information and you could send it anywhere you chose to send it, to your physician, to someone else? And what if the people who are most important to you, your real care team, friends, families, spouses, could receive information but only when it was important?

So if you are taking care of an elderly parent and you get a message -- as happened once to someone in our company -- their mother who is close to 70 had a blood sugar over 500 and they received a text. And they called, no answer, called again, no answer, drove over there and thankfully they did because she may not have made it if they weren't there to help. All of that because of technology and no one had to call, or do anything, it just happened. And so the goal of Livongo, starting with diabetes, is How do we make it easier to take better care of yourself? That's not going to the physician more, it's making everything -- giving you the information, putting you in charge.

David Harlow: Right. So how has this gone? It's been a couple of years now. How many people are using the system? What's the vector? How do you get to patients? Is it through employers? Is it payers?

Glen Tullman: Well we have been very, very fortunate and I think that's really just a function of the fact that people love what we do, they love the approach we take. And because there are so many people who are so intimately involved in diabetes and have such a direct connection that when we do it, it's kind of the dogs eating the dog food -- I have to say to my son, I have to look him in the eye and say, "Is this better, does this help you?" And believe me -- he is a college student, he tells me, he has a direct feedback loop to say, Dad, this is great or Dad, this sucks.

We came out with a new case not too long ago. And part of the impetus for that was he said, "Hey this new connected meter is great, but the case sucks." And I went back to our people and I said, "Hey listen, I am told by a survey, a very broad survey I have done that the case sucks and I am embarrassed by it, let's fix it." So we went out and we developed a new case. And it had more zippers and more place to store used needles and used strips and all of the things that someone who had diabetes would actually want and then we sent everyone a new case free. Some people sent it back and said, we didn't order this, we said, no it's free, believe it or not, we actually care about you. So people love it, we have a Net Promoter Score of 56 in an industry where 10 is common, 10 is great. And they love the fact that we make life easier. *[Net Promoter Score is a proxy for customer satisfaction and loyalty, on a scale of 1 to 100 – Ed.]*

And so how do we market it? Well, we started with large self-insured employers, some of the best names in the business. The Lowes, the Macys of the world, many of the big, big names that you hear about. And that we are so proud of because they actually care about keeping their people healthy. And as we started to roll out those large self-insured employers, the payers became interested because they were thinking about carving this

out as a benefit. So the payers started to come on board. And I am proud to say that some of those payers, including folks like Humana and Blue Cross Blue Shield of Massachusetts, have actually invested in the company -- that's how invested they were. And so the payers have come on and now large health systems are starting to come on. So folks like Mission Health or Mount Sinai -- one of the largest systems in New York -- and now we're talking with folks like Thomas Jefferson in Philadelphia, real leaders who again are focused on: How do we reinvent the future of healthcare? So we have tens of thousands of users now, very exciting, from starting with zero. And you know this is really remote patient monitoring for people with diabetes.

David Harlow: As I understand it is more than monitoring. It's the whole package. You have developed the hardware and you also have developed the coaching system that goes along with that. I am curious also about the pieces that go in between there and the data analytics. I wonder if you could speak a little bit to that -- what have you built there and how is the information there communicated both to coaches and to clinicians and payers?

Glen Tullman: I can, yeah, thank you for asking, it's really three elements. So there is this very smart glucometer and that has an embedded cellular chip as I mentioned it lights up, if you stick a test strip in, it turns on automatically, if you pull it out, it turns off automatically. There is no -- it's not Bluetooth, it's cellular so you don't have to sync it and you don't lose connection and all those kind of things. And it's one of the most accurate, it not only meets but exceeds the proposed standards -- very important. So most meters out there are highly inaccurate: if the meter says 100, it could be 80, it could be 120. On our meter if it says 100 it's 95 to 105. So first if you are going to inject insulin or take medications based on a reading it should be accurate.

David Harlow: Yeah you want to know what the reading really is, of course.

Glen Tullman: Yeah and that's really important that everyone should meet those standards. One or two meters do, but most don't. Second thing is you want to be connected, now that's connected to the smart cloud so what does the smart cloud do? So first of all, it gives you real-time feedback -- but it's actionable feedback, so for example your number is low, it's a 55 and in diabetes a 100, let's say is about average, 55, it might say drink some fruit juice, check again in 30 minutes. If your number is 400, very high, as opposed to low, if your number is very high, it might say drink 3 glasses of water, walk for 15 minutes, check again in 30 minutes.

80% of the people actually follow these little information tidbits because for the first time, we are empowering them, we are saying here is what you can do, right now, about *your* diabetes, to make it better. And then we see better results, better clinical results. And that smart cloud also does two other things. One, it will broadcast to your own care team, your personal care team. So who is that? It could be a son or a daughter taking care of an elderly parent, it could be a spouse, it could be a roommate, it could be a mother or father taking care of a younger child. But it won't send all the information -- that's information overload -- that's exactly how the system shouldn't work, because then you start to ignore it. You don't want messages on your cellphone all day long --

David Harlow: Alarm fatigue, nobody wants that --.

Glen Tullman: Exactly, and so how do we prevent that? So we set a series of rules to say: Only tell me if David's number is above X or below Y. And now the only time I will know if my son has a low blood sugar while he is away at college, is what he and I have had a handshake and agree on, and he wants me to know. And so that's the second piece. The third notification there, is a notification to our certified diabetes educators, and these are people who are available 24/7, 365 days a year, in English and in Spanish. And what they do is if they see a high or a low that's dangerous, they will instantly call, generally within 60 seconds and they simply -- it's not your mom or your dad or your son or your daughter; I used to call my mom and say, are you checking and she would say, you take care of your kids, I raised you -- it's not about that, it's about: We noticed this reading. Is there anything we can do to be of assistance right now? do you need some suggestions?

In some cases people say, I am dizzy, we say sit down, can I call somebody on your call list for you? In other cases, someone is terribly low as happened with my son, 4:00 a.m. in the morning he checked his blood sugar and there is great video, it's available on our site because I made it after he told me the story, I arrived at college and he said, "Dad I had my first Livongo moment." And I said, "Well that sounds good but what is that?" And he said, "Well at 4:00 a.m. last night I checked my blood sugar, it was 37." He is 6'3.5", 240 pounds, he plays football and he knows that at 37 he can't stand up, he'll have an immediate seizure from low blood sugar. "My roommate was out, I didn't know what to do, I was going to call 911 and then my phone rang and it was Katy," and so I said, "Well who is Katy?" He says, "She works at Livongo, she called to check on me," and they worked something out, he was okay, he didn't have to call 911 which saves not only the hassle of having the ER pull up at college, not only the cost, the inconvenience, but more important he said, "You know I found out today that you are not really in the software business, you are in the business of making sure people don't feel alone anymore." And that really is what we are doing. So this is really about how do we help people live their life and how are we there for them on their terms and only on their terms.

So our coaches will never pick up the phone and call you and say, "David, how are you doing? We know you have a chronic condition" Nobody wants to get that call and yet we do it across our health system. What they want is, I want you there when I need you there. You know I always use this example of if you drove here, and we are sitting here and we are having this interview and suddenly your phone rang and someone says, "I can fix your flat tire in 5 minutes," you would be mildly irritated, you would say, I hate these calls, I don't know how they got my cellphone number. Except, if you actually got a flat tire on the way here and then you would say that call was magic, that was perfectly timed.

Well, we create that magic because the only time we ever call is when you want us to call. And how do we know that? You are extremely low, you are extremely high, and the

only thing we ask is: How can we help? And that kind of magic is what's going to change all of healthcare because knowing when someone needs care is the secret. Today we provide so much care, we have so many people who go in to see their endocrinologist or doctor, for a regular checkup and they are perfectly fine. The doctor says you are perfectly fine and you say, "I just paid a copay, I drove here, I probably waited at least 30 minutes to have you tell me what I knew, I felt fine." And we are using this technology to say, call that person up and say you don't have to come in for your appointment, your doctor says you are doing great, keep it up. You are calling someone else, and say, we are looking at your numbers, so you do need to come in. And there the physician can actually do what they were trained to do, which is help someone get better, get back in range, bring down their A1C and that's really the magic of what Livongo does.

David Harlow: So that's the holy grail, control of the A1C and I have seen some published studies looking at your system and your company's approach and some have shown, whether it's text messaging or other applications that you have, bringing A1C within control, all of these studies are necessarily short-term and small numbers. Do you have any broader sense of the long-term impact of the system that you are using? How does it impact, and what sort of impact does it have on people, long term?

Glen Tullman: Well, we are seeing very strong clinical results. And that said it's hard to have a multiyear study when the product hasn't been around for multiple years. Now we have just crossed over that and so now we do have our first studies coming out. People like University of Massachusetts who have been studying it in a clinical trial will soon be releasing results. I won't comment on those because we don't know the final results yet, although in an interim discussion that they have, they indicated that they are seeing positive results but until they come out, we can't really comment on them --.

David Harlow: Right, there have been some smaller scale sort of observational reports that have shown some success.

Glen Tullman: Yeah, now the one thing I would say, David, is that when you are dealing with self-insured employers, they are very focused on a few things (1) They want their employees to be happy and satisfied using it. And if they are not, they won't force them to use it. (2) They do want to see improvement in clinical results, but sometimes that takes time. But (3) They also want to see improvement in the results that come from reducing costs and there they have also seen very positive steps. So everything else being equal, most employers are saying, why wouldn't we do this, because it's not making things worse, it's making things better, all the results are going in the right direction. Our people don't just like it, they love it, because we have made strips free now, they no longer pay for them, I mean think of how crazy it is, if I say, I want you to do something every day and every time you do it, I am going to charge you for it, why would you do it? And so we have made strips free. We said, let's focus on the price, the price is keeping you healthy, out of the hospital and not getting some of these bad degenerative effects. And that's really what the goal is, it's not saving one or two little strips and trying to economize on an item and that's really been this dysfunction that we have had in the system. And we are saying, let's make it easier and easier for you to stay healthy. And

by the way, when these individuals -- and we call them not diabetics, but people with diabetes, how amazing is that, so we have labeled people and it used to bother me, people would say, your son is a diabetic, I would say no, actually he is a --.

David Harlow: He is a football player.

Glen Tullman: He is a football player, he is a student, he is a hundred other things. But I am not going to have you label him, we don't call someone with cancer, a cancer. And so you know I would like to say, if we are going to change the world, you have to change the words. And so all the words around this experience we changed and we have recreated. So we have people who happen to have diabetes but a lot of other things going on in their life and we are going to make that easier for them to focus on that. We don't talk about testing, we talk about checking, it's not a test, it's not a win/loss, this is something that you have to manage through. And we are going to make every aspect of that easier to do and take all the hassle away and that's how we are going to use technology.

David Harlow: Right. So speaking of technology, I wanted to ask you your thoughts on the closed loop systems; so the first one was just approved by the FDA, and in recent years there have been a number of people with diabetes who have built their own -- the open APS movement, and I have known a number of those people, I am curious: How does that population fit in with some of the populations that your company serves and how does this new device -- do you have a general reaction to the new device and how that affects them?

Glen Tullman: Sure, the general reaction is great enthusiasm, woo!, awesome. And to quote Hamilton "Awesome! Wow!" So more than 10 years ago, I led a campaign with a guy name Jeffrey Brewer, we were both entrepreneurs who had children with diabetes and in collaboration with the Juvenile Diabetes Research Foundation we kicked off research and raised a lot of money for research on the Artificial Pancreas Project or APP. I am very proud of the work that JDRF has done. Jeffery Brewer went on to go from an entrepreneur and a father with diabetes to literally heading JDRF for a period of time and now he has gone off to start his own company to make all that technology better and more accessible, so a shout out to Jeffery for the amazing commitment that he has had.

But this is great news, it's great news and the fact is that we are now moving from research to actual commercial products, that said, I also want to be realistic, the artificial pancreas is generally focused today on people with Type 1 and a very small number of those people and why is that? It's because it's invasive to wear multiple devices on your body and a lot of people don't want to do that. And today many of those people are people who are already very compliant and they are willing to take the next step to health. We have great organizations working on making the actual sensors smaller, you know Abbott has a great device, as you know, that's already in Europe. And so it's going to get better and better, the technology is going to get better and better.

At Livongo we are very excited about it because the easier it is for us to get more and more data, the better we can get people feedback on how to stay healthy. The other thing I would say about Livongo is while today our primary focus is diabetes, it turns out -- and I should say, not just diabetes but Type 2 diabetes -- we will cover our bases, as a mix of Type 1 and Type 2, both are important to us, but the bulk of people with diabetes around the world and in the United States are Type 2. And because of that we have to figure out solutions that work across the board for everyone. So we see the artificial pancreas as a great step forward, we see all the work in the sensors as great step forward, but at the end of the day, you as an individual don't care about technology, you care about how do you live your life, and how do you feel better and what's that experience. And that's where Livongo plays and, of the people above the age of 50 with Type 2 diabetes 70% are multi-chronic. So simply helping you control your diabetes may not be enough, if you have other issues and you are dealing with depression, if you are dealing with hypertension, if you are dealing with weight issues, if you are dealing with any number of things, we have to have a comprehensive solution and that in fact is what we are working on.

David Harlow: And I know that's what the long term plan here is, right.

Glen Tullman: Yeah so it's not a whole lot different than in prior life at AllScripts -- we started off with electronic prescribing and that was tough but today I'm very proud that probably three-quarters of all the prescriptions written in the United States are done electronically and we were there at the beginning. So when once we had that electronic capability and connectivity then people said, can I also capture charges? Can I also place orders? Can I also dictate? And pretty soon we had an electronic health record, unlike some of the ones on the markets, it was usable by physicians, physicians loved it -- unlike some of the ones that are using today.

So I see this as a similar kind of evolution which is what you want as a person living their life is give me technology that makes it easier for me to stay healthy. And that's really what we are about --.

David Harlow: Great, so it sounds like you are thinking of this as growing organically out from diabetes to manage some comorbidities that are most common with diabetes and then perhaps going beyond that --

Glen Tullman: Exactly --

David Harlow: As you continue. You have also spoken about spending --.

Glen Tullman: Just to add one thing, to talk about longer term future, so I occasionally will test out all of the technology and I was wearing a Dexcom -- incredible company, great shout out to them -- I was wearing one of their new CGMs, Continuous Glucose Monitors and I left the monitor on my assistant's desk, it was late in the afternoon and she came in and she brought me in a hot fudge sundae. And I thought to myself what a nice thing, it was such a nice thing, why did you do this? And she said, "Well you left

your little monitor on my desk and your blood sugar was low and we have a meeting later and I didn't want you to be grouchy, because we know that low blood sugar can do that." And I thought to myself -- I laughed -- but then I thought to myself, how fascinating, that someone who is not a doctor, in another room, knew more about what was happening in my body than I did and took action to change that and to make me "feel better." And so when we think about the future, imagine you wake up and you look at a little device and it says, David here is what you need today, to feel the best that you feel every day. And we all know that some days we wake up and we have enormous energy and other days we wake up and we don't have as much. And so the question is how do we feel great every day and long term again that's what it's about.

David Harlow: That's great. You have talked a lot about the experience at the personal end of the spectrum and how the goal really is to be free of technology rather than dependent on technology or focused on the technology, focused on the outcome that the technology enables. And obviously you are living within a highly regulated system, and I am wondering if there was one thing that you could change about our healthcare regulatory industrial complex, what might it be?

Glen Tullman: Well I think there is, I have got a little bit of a laundry list -- not too long. One, I think the FDA has come a long way, in terms of getting really smart, committed people there who are working with companies to accelerate the technology and I am very proud of that, I am proud of the role that the Obama administration has played in facilitating that and having -- you know who would have thought, even five years ago, that the government would actually lead in so many areas in driving healthcare forward. And while I know there are problems with what's called ObamaCare, by and large today we are in a better situation, maybe the best situation we have ever been in, relative to that.

So that's number one. Number two, I think companies have to step up and some of the largest companies out there, they have to look out for the patient and not just their bottom line. And so I think that we have some companies who are doing that and we have some companies who are still stuck in the world of let's sell more expensive strips and let's not push the latest technology -- including old meters that are inaccurate -- and so we have to see that same leadership of saying how do we make it better for people with these chronic diseases and those are really the two areas.

Lastly, two years ago, just over two years ago, when we started Livongo we were praised as finally Silicon Valley is coming to diabetes. And today you can hardly find a company that's not focused on it. So the prospect for an incredible future -- where we find a cure and until we do, make life better for people with chronic conditions -- I think there is enormous opportunity and upside, I am so happy that Silicon Valley has become engaged and it's not just what we call Silicone Valley out in Mountain View where we are headquartered but now there are Silicon Valleyd in New York and in Chicago and in Austin and in Boston and in so many places, where there is great innovation going on. And in fact some of the great you know Lilly has great innovation center in Boston and I think we are going to see so much innovation go on in a lot of what's happening here at the conference today, talking about great new innovation, now we need leaders to adopt

that at payers, at health systems and they need to, to quote an old friend of mine, Jeff Soles: “Sometimes you need to leap before you look.” I like to say that innovation starts by doing something so stop studying, stop pilots, go out and do something -- if it doesn't work stop it. What we have also have to stop is a million pilots, sticking your toe in the water, we have to embrace this technology and say we know we can be better. And that's the future I see -- that's why we are so excited.

David Harlow: Great, inspiring words, thank you very much. I have been speaking with Glen Tullman, CEO of Livongo. This is David Harlow at HealthBlawg.