

# straighttalk

## COLLABORATION FOSTERS CONNECTED HEALTH: A NEW PARADIGM OF PROACTIVE HEALTHCARE



**Lopez:** Let's start by talking about the challenges facing healthcare today. What is your point of view on the problems that healthcare is facing?

**McClure:** There is a perfect storm growing. There are large demand shifts in healthcare that are going on: the rapidly aging population coupled with the rise in chronic disease, which is more expensive and time consuming to care for than acute interactions. Meanwhile, there is a supply constraint in place. It is very widely publicized that there is a nursing shortage, but less publicized that there is actually a physician shortage as well. At Partners, we have fairly large-scale efforts underway to figure out how to take care of people better without necessarily dragging them through our hospitals or our clinics every single time. Our primary goal is to help people do a better job of taking care of themselves.

**Whitlinger:** There is a shift in the healthcare system. That shift is from bringing the patient to the institution for the delivery of healthcare to bringing that healthcare to where the patient resides. The shift can sometimes be described as personal telehealth or connected health. If you look at the cost of the delivery of healthcare along a scale, on one end you might have the ICU. The quality of life for that individual in the ICU is probably pretty poor. If you slide down to the other end of the scale, delivery of healthcare to the home is probably much less costly and the

The system of caring for people—the chronically ill, the elderly or even the fitness buff—is reactive, expensive and cumbersome. But a new paradigm of care, called connected health, promises to reduce costs and improve quality by working with patients proactively. How? Patients monitor their own health using electronic devices outside of the provider setting. As a result, the number of visits to both physician's offices and inpatient hospital units can drop significantly.

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quality of life for that individual is going to be much higher.

**Lopez:** This is a new paradigm of care. Your vision is to take healthcare to the home—or outside the provider setting. You talked briefly about telehealth. How is it different from the traditional telemedicine?

**Whitlinger:** Personal telehealth is a whole suite of devices and services from many different vendors that can be used to help monitor a person's health. Whether that is the health and fitness athlete—who is monitoring their fitness or their weight program and is able to interact with healthcare professionals—or all the way over to the individual with chronic disease—who is monitoring their glucose and is able to interact with clinicians using connected devices. There is one aspect of this that is another paradigm shift: taking healthcare from a reactive model to a proactive mode. Using devices and connected services, we can give individuals—whether they are patients or consumers—tools to monitor their healthcare. They can monitor their health when they are well and can monitor their health when they are sick.

**Ayyagari:** We are where we were with the Internet in 1990. These are early days. Things are going to change a lot. But at the core of all of this are the technologies that have followed the consumer. What it comes down to is a different way of looking at health and care. The two dimensions: health and care.

\*connected thinking

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**Fisher:** The key point is empowerment. If you think about the three domains—chronic disease, the elderly and health and wellness—empowerment means something different to the consumer in each of these categories. What I find so fascinating about the space is you define it in a way that is most meaningful to you. As we create the ubiquitous environment with the interoperability standards, the market will figure out creatively what the right health services are for the different consumer constituents. It will enable innovation in ways that we haven't even thought of yet.

**Lopez:** Let's talk about the Continua Health Alliance. What is the Continua Health Alliance? What is its mission?

**Whitlinger:** Continua Health Alliance is an open industry, nonprofit alliance. It is a collaborative organization. We are more than 110 companies that have come together to collaborate on bringing this connected technology to the world. It comes down to being able to empower patients, consumers and healthcare providers in developing new methods to deliver healthcare.

**McClure:** The group I work in has done a fair amount of telemedicine work. Connected health is different. It certainly has a telemedicine component to it, but it is a logical extension of telemedicine. There is a distinction between the two of them. In telemedicine, you have a clinician sitting in the middle for reimbursement reasons and for care-delivery reasons. In connected health or telehealth, we can envision a system in which we don't have to have a clinician sitting in the middle of every transaction. We envision a better health system, which enables care when it is needed but also enables self-care.

**Lopez:** What types of companies are members of Continua?

**Whitlinger:** We have providers and payers as well as companies specializing in medical devices, fitness devices, consumer electronics, telecommunications, computing technologies and electronic health records. For example some of the representative member companies include:

- Sharp
- The Tunstall Group

- GE Healthcare
- Samsung Electronics
- Motorola
- Medtronic
- Cisco Systems
- Welch Allyn
- Intel
- Royal Philips Electronics

**Lopez:** One of the goals of Continua is interoperability. How is this going to make health care more efficient and cost effective?

**Ayyagari:** I would like to make a few statements about what interoperability really means. You have policy makers talking about interoperability as the panacea for all that ails the healthcare system. Obviously, interoperability is something that is both very complicated and hard to do. Otherwise, it would be something that we would just do naturally. If you look back at industries, like telecommunications, that have addressed the problem, you will notice that achieving interoperability was actually like a trapeze artist walking on a rope that was swinging like a pendulum. It is a really difficult balancing act. On one hand, you want to enable true interoperability to create a marketplace big enough to have a lot of companies coming in and having a fighting chance of making a viable business. On the other end of the spectrum, you want people who can differentiate their products through innovation. To win, you need to innovate. If you have a lot of players in the market, costs come down and technology becomes commoditized. But perfect interoperability reduces the playing field to the lowest common denominator, which stymies innovation. In healthcare, what will interoperability do? A larger marketplace with more players will naturally drive costs down. We, at this point in the healthcare space, can certainly benefit from that the most. We don't have to worry so much about staunching innovation as yet. Right now, you want to break down monopolistic barriers and create big open markets with common rules and interfaces that bring people in, giving all technology companies a real chance at succeeding by building innovative medical products.



**McClure:** What interoperability does is enable a set of process changes that will allow us to get data and make it part of our electronic medical record. In doing that, we will do a better job of helping people take care of themselves. Diabetes is one example. There is type 1 and there is type 2 and there is the pre-diabetic and there is the out-of-control diabetic. When we think about pre-diabetic patients, for example, we'd love to catch people before they actually become diabetic. The conversation is: If you don't change your behaviors, in five years, you will become a type 2 diabetic and then you will really have to worry about your blood sugar. You've got to lose a little weight, you've got to change your diet, and you've got to get more active. We can actually get paid to coach people to do that. The payer side of the universe is really interested in us catching people before they really have diabetes. The cost of care is much less. You might do this through activity monitoring.

**Lopez:** This brings me back to the role Continua plays. Are you making recommendations? Creating guidelines? If so, can you elaborate on your initiatives?

**Whitlinger:** We started back in the middle of last year collecting use cases. Use cases are what the member companies of Continua believe are going to be the user experiences that we want to enable. We took those use cases, collected them, removed redundancy and then had the industry—the members of Continua—vote on the highest priorities for establishing interoperability. We now have that set of use cases that we have turned over to technical working groups. The output from technical working groups will be a set of guidelines, which we will publish this year. What those guidelines are is a collection of the standards necessary to enable strict out-of-the-box interoperability. As a consumer or healthcare provider, you can have a product from any one of the member companies and it will be interoperable with the products and services of the other companies. You don't need a technician to glue this stuff together. It is a consumer electronics level of interoperability. There will be a certification and logo program. Consumers and healthcare providers will be able to look for a Continua logo on the device and services in this marketplace. If they see a Continua logo on a blood pressure

cuff and a Continua logo on a cell phone, they know that the two are going to talk together. They will be able to exchange data. Our promise to the provider and the consumer is that it is out-of-the-box simple. We expect to have our certification and logo program in place at the end of the year, and certified products in the marketplace in Q1 and Q2 of 2008.

**Lopez:** Partners is one of a handful of providers in Continua. Can you give us some specific programs that you have pilot tested in the telehealth space?

**McClure:** I work for the Center for Connected Health, which is part of Partners HealthCare. It is about 35 people and has been around for 10 or 11 years. It started out doing very traditional telemedicine. What we have created is a model and a methodology for how we can take ideas like that and put it in a research and development environment to figure out the clinical and economic outcomes that we might get. For example, four-plus years ago, we began work on remote monitoring of congestive heart failure in the homecare environment. We were trying to figure out if we could get the clinical and economic outcomes. We now have about 100 patients in service at any given time. The homecare managers think they have about 500-plus patients at any given time that might be eligible to be monitored remotely. They plan on scaling to that number. The ROI turned out to be about how Medicare pays for us to take care of those patents. Medicare created a prospective payment system where they pay us the same amount to take care of somebody in 60 days whether we see that patient a lot of times or very few times. If we hold the quality level and we figure out how to do it in a more cost effective way, there is a win. Unfortunately, that doesn't work for Blue Cross and Blue Shield [of Massachusetts, Inc.]. They actually pay us each time we go see one of their patients in the home. Now we have an incentive alignment problem.

**Lopez:** Do you have another example?

**McClure:** We are working to set up a series of research and development experiments to figure out how to make the coaching process more automated. Can we create an avatar that has programming behind it that does most of the coaching? We have to

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help clinicians figure out how to take care of more patients in the same amount of time. A lot of that has to be automated messaging. The programs we might think about are ways to help strengthen the care-delivery process around diabetes or asthma. Partners' Center for Connected health is very much engaged in building out a set of programs. We have to prove this intervention has the value.

**Lopez:** What are some of the barriers?

**McClure:** Deepak would tell me that there is nothing special about the remote monitoring that we use. It is not high tech. The hard part is the process change. The homecare nurse is on the front lines in charge of the care for that patient. It is hard to make fewer visits and instead rely on nurses to monitor data remotely. It can be very hard work and it can be quite murky sometimes about what the payoff is going to be. To this day, nobody pays us to put a unit in the home. We have to take the bet as an organization that we can provide better care and get the payment with this technology. So far that bet has paid off. But how much will the technology and the process change cost us and will it be worth the money that is on the table? That is where we will rely on our consumer electronics friends to help drive the cost out of this. Home monitoring today is really pretty expensive.

**Lopez:** You have a couple of payers in Continua. What is their perspective?

**Whitlinger:** The private payers are starting to see that there is something there. The private payers are getting engaged. The first major activity at Continua is to put together a landmark, baseline study for remote patient monitoring. We have contracted out to a research organization and pooled together all of the remote patient-monitoring trials that have occurred in the U.S. and Europe over the last five years. We are going to take that study and look at it objectively and say, "Here is all the data that proves quality and outcomes." We are not likely to get ROI data.

What we would like to do with that study then is go over to the payer community and say, "OK, Here is what the data now says. We know that the data is probably insufficient. We don't expect it to prove our point this year, but tell us, payers, what is the data that is now necessary?" We hope that dialogue will happen this fall. From there, we can decide in 2008 what to do.

**Lopez:** What is the next step? What will move telehealth forward?

**Fisher:** One of the things that is going to be necessary, we think, is a common language that describes the value proposition to the various stakeholders. We think the IOM's [Institute of Medicine] six quality aims is potentially the way to frame that value proposition. You had talked about the dollar ROI, but part of the value is around access and part of the value is around quality and part of the value is around these things that are really hard to quantify. So the comprehensive value proposition includes more than just the direct ROI. It is imperative, but it is not all that has to be figured out and communicated to all kinds of different people.

**McClure:** Providers have an incentive to do it because they will provide better quality of care; payers have an incentive to do it because they will save money (they are losing quite a bit right now on chronic disease patients); technology companies have an incentive because they will tap into a huge market; and consumers have an incentive because they will get better care.

Want to learn more about connected health, or the Continua Health Alliance? Contact PricewaterhouseCoopers: James Fisher at (317) 453-4100 or [james.e.fisher@us.pwc.com](mailto:james.e.fisher@us.pwc.com). You also can visit PricewaterhouseCoopers on the web at [pwc.com/healthcare](http://pwc.com/healthcare) or via telephone at 800-211-5131.

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