

Telehealthcare Will Soon Be Keeping All of Us Healthier

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Hagen Wenzek is a consultant with IBM Germany. Recently Hagen has been working in the Telehealthcare area with client companies in the global medical/electronics business. Hagen also is the co-author of the chapter on Telehealthcare in the newly published book titled *Irresistible! Markets, Models, and Meta-Value in Consumer Electronics*.

In this podcast, Hagen explains what Telehealthcare is, its advantages, and the current state of using Telehealthcare in the world.

HENDERSON: Hi I'm Al Henderson. One of the major problems facing societies today is "how to deliver excellent healthcare" to a growing population with changing demographics and higher expectations about living longer and healthier lives.

Joining me today is Hagen Wenzek. Hagen is a consultant with IBM Germany, working in the exciting area of Telehealthcare.

Hagen, thank you for joining us today.

Wenzek: Thank you for being here.

HENDERSON: Can you start by telling us what you mean by Telehealthcare.

Wenzek: Telehealthcare, just for a basic understanding, is the use of information technology to provide healthcare services at a distance.

So that typically can include anything from medical services at the inpatient or at the outpatient stage. It could even include when a doctor in one hospital supports surgery with a doctor in another hospital somewhere on another continent, for example. That is the broad definition of telehealthcare.

What we are looking at with Telehealthcare is much more focused healthcare. It is about monitoring patients in their homes or when they are mobile, capturing vital parameters.

HENDERSON: Ok, can you also tell us why Telehealthcare is important and useful?

Wenzek: Imagine for example, that usually a patient who has a chronic disease is measured whenever he goes to his doctor. That could be once a week or once a month. The blood pressure is taken, heartbeat monitored, all the stuff that you know.

Wenzel, continued: But that is only one data point, and it's a very unreliable data point because patients are usually pretty nervous when they are at the doctor, so blood pressure is not really normal.

What the doctors actually would like to see is constant monitoring of those parameters so they always know what the history is and how big the change from yesterday to today is, for example, or from an hour ago to now. And when you have these findings and have these data points available, then a much earlier intervention can take place for a patient, so you don't have to wait, for example, until the congestive heart patient has a stroke and you need to get him into the emergency room.

Because you already can see a tendency that the heart will develop a problem, you can give the patient advice to change medicine, to change diet, or to see a doctor.

HENDERSON: Any more advantages?

Wenzek: What I talk about is the medical advantage, obviously—patients being healthier. That has a direct cost advantage, because you don't have to put patients into a hospital as often.

For example, consider congestive heart failure—we have studies that show 85% fewer hospitalizations for congestive heart failure patients using Telehealthcare. That's 85% fewer times that patients need to go to a hospital. Each hospital stay costs between 5,000 and 10,000 U.S. dollars.

So imagine that decrease in cost where we have for the elderly people, everybody above 65, between 10 and 20% of the population having congestive heart failure. You add diabetes to this, a little bit of asthma, and suddenly probably a majority of the population of elderly people has these diseases.

And now you take away a huge number of hospitalizations, or at least a decrease in days spent in a hospital because you can release a patient earlier, so you have a dramatic decrease in cost. That really helps a lot.

HENDERSON: How about disadvantages?

Wenzek: A disadvantage that has been stated often as a point of critique from people is that this constant monitoring obviously is something that some people might not want. You just don't want to be monitored all the time, to have somebody know exactly the state of your health, and maybe give that information to people who shouldn't have that information, like your insurance company maybe. Or maybe you want to give it to your insurance company, but you're not allowed to.

So a disadvantage is that currently people don't trust the whole healthcare system to be serious with that information floating around. I think we can overcome these disadvantages without too many problems, but it's a point where we have to make special effort, and therefore this is an area where we need to give advice to companies offering those services.

HENDERSON: Is Telehealthcare really ready for widespread use today? I mean, is the infrastructure there today to make this happen for the average person?

Wenzel: The infrastructure that needs to be in place depends very much on the sophistication of the medical providers. It's not so much the patient anymore. There are two big different solution types of Telehealthcare out in the market. The one is stationary, the other is mobile.

The mobile one actually has been developed by IBM at our Research Lab in Zurich, where we have a mobile phone that is the hub for a rating scale. Sensors on the patient's body capture vital ratings and transmit them from the patient to the mobile phone. The mobile phone uses GSM, GPRS, UMTS, you name it, any of these data transfer mechanisms, and sends the data to a server. The data is analyzed, and then it's sent back via a portal—to the patient, or to the doctor or to a medical provider.

When we're talking about the doctors and how they are working today with technology, you have everything from a highly sophisticated hospital with electronic health records, everything digitized, the x-rays on the computer, and there's a workflow where a patient is already registered via the Web to come to the hospital at the right time. The patient gets a reminder via SMS, and everything regarding the patient happens within an electronic workflow system.

On the other side, there are hospitals where everything is still paper-based. Imagine a hospital where every piece of information about your disease is captured on paper. Doctors put it down on paper. Now, with telehealthcare, suddenly you have a constant flow of information about a patient coming back to the hospital, to the doctor. How would the doctor deal with this?

How can the doctor use this information without being completely disturbed in the way he works around patients, works with the hospital administration, et cetera? This is an area where we need to see major up-front investment, so that we can implement Telehealthcare reasonably.

HENDERSON: What are companies doing today to move Telehealthcare forward—so that it can become real to more and more people?

Wenzel: Well, when companies go into a Telehealthcare market today, they usually are pushing their solution into the market.

It's a typical technology approach where you have a great technology, a new solution, something that the company feels is really compelling, and they push it out and expect people to jump to it, wanting to grasp that new technology.

However, Telehealthcare, where you are talking about a significant change in treatment, a significant change in workflows, et cetera, needs much more buy-in from all the stakeholders. You need to have buy-in from the insurance companies, who, by the way, are probably advocates of such a solution because of the decreasing costs. Decreased costs are especially compelling for the insurance companies and other payer organizations.

It's a different thing. Telehealthcare is a different beast, so companies need to be aware of it. It's

not a problem to deal with. Payers just need to be aware that Telehealthcare is something that they need to take into account if they want to be successful in this booming Telehealthcare market.

HENDERSON: So in summary, where is Telehealthcare heading?

Wenzek: To summarize where Telehealthcare is heading, I think that once we overcome a usage threshold that is there—it's hard to know where the threshold is right now and how to overcome it exactly, but it will be overcome in the next few years—then we will see Telehealthcare as a standard way to treat patients, especially patients with chronic conditions, better than before. Telehealthcare will be extremely compelling to healthcare systems because using Telehealthcare will directly lower costs. Telehealthcare will be compelling to patients as well, because most of them probably will live a better life and a longer life.

And for the consumer electronics companies, the electronics companies dealing with medical devices, Telehealthcare will be a growth market. It will be a market with huge chances for big growth-

So far, I've been talking only about this piece of Telehealthcare where we're dealing with chronically ill patients. However, I think it's not difficult to imagine using the same applications, the same infrastructure, the same technology, expanding away from ill people, from patients, to consumers, to wellness. Telehealthcare can be a better infrastructure to use for the parameters that you already measure when you are doing your workout, for example, and running, and you have your small heartbeat monitor around your chest and a watch that captures that information. So I think Telehealthcare has huge potential, will be a booming market, once we have overcome some thresholds.

HENDERSON: Hagen, thank you very much for joining us today.

Wenzek: Thank you, Al. Thank you, everybody. I think we have a great opportunity in Telehealthcare.

HENDERSON: That was Hagen Wenzek. Hagen is one of the co-authors of a fascinating book called *Irresistible! Markets, Models, and Meta-Value in Consumer Electronics*.

You can learn more about this topic, and other topics that are important to the consumer electronics industry, in that book. The book is called *Irresistible! Markets, Models, and Meta-Value in Consumer Electronics*.