

BAKER: Hi, I'm Derek Baker, the Executive Editor of the ibm.com home page, and I'm here today to talk with Dan Pelino, who is IBM's General Manager for the Healthcare and Life Sciences Industries; and also, with Dr. Ronald Paulus, who is the Chief Technology Innovation Officer for Geisinger Health System. Good afternoon, gentlemen.

PELINO: Good afternoon, Derek.

PAULUS: Hi, there.

BAKER: We hear a lot about healthcare. We read about it in the news. I think everybody, regardless of what they've heard, knows that healthcare is expensive. And IBM just released a paper, in fact, on the state of healthcare today and where we may be headed in the next decade, called *Healthcare 2015*.

In that paper, Dan, it mentioned that in the U.S. alone we're spending about 16 percent of our GDP on healthcare. Now, that's kind of an alarming figure. So can you put that into any perspective for us? I mean, are we getting any value out of that or is it really as bad as that sounds?

PELINO: Yes, thank you, Derek. And you know, I wish I could tell you we're getting the value out of that of what we spend. We spend roughly 16 percent of our GDP in the U.S. in healthcare. When you start to look at some of the quality underneath that, between 98,000 to roughly 195,000 Americans are killed each year because of medical mistakes. Unfortunately, 57,000 people die from inadequate care, there's different pricing models.

And if you were to say to yourself okay we spend 16 percent of our GDP on healthcare, where does that rank us compared to other health systems around the world? Well, the answer is unfortunately we're ranked 37th in overall health system performance by the World Health Organization and we're 22nd in life expectancy in the developed world.

This is, I must tell you I've visited some of the most competent and most complete healthcare institutions, the passion that you see from the doctors to nurses to clinicians is something that's quite spectacular, and they do work miracles every day.

But the challenge we have is that our healthcare system is becoming, well, it's becoming untenable. It is at an inflection point where we have to do something different in order to provide the kind of care that we need at a cost point that we can absorb going forward.

BAKER: Let's talk to Dr. Paulus here about Geisinger in particular, because not only have they and IBM just entered into an agreement recently for a new project that I want to ask him to describe here, but Geisinger also seems a unique organization in the healthcare industry that I'm hoping to be able to ask him about, because they deal with insurance, the doctors. In fact, Dr. Paulus -- Ron, if I may -- you're the chief technology and innovation officer there, but you have a medical degree; is that right?

PAULUS: That's right.

BAKER: So, I mean, you sort of see this from a bunch of different angles, I imagine. What is this project that IBM and Geisinger have engaged in?

PAULUS: The way that we think about this at Geisinger is, we were a very

early adopter of an electronic health record. We made the decision over a decade ago. We have been fully operational with nearly essentially 100 percent physician adoption and utilization of that electronic health record for more than the past five years. And those electronic health records, we happen to use Epic, are really driven towards transaction-based encounters and how it helps Dr. Smith see Mrs. Jones in his office environment. And that's really the concurrent individual one-by-one patient encounter. And that's a very important and crucial part of the overall health delivery system.

But what that sometimes becomes separated from is the knowledge and insight that one can glean from looking at historical data at populations of patients and at trends and knowledge and insight that is able to be gleaned from that information.

So we envision a near-term future where the decisions are not only informed by the physician's training and skills, and art and ability to empathetically engage with that patient and look at concurrent data about tests and therapies...

But also looking at immediately available insight that's derived from historical patterns and trends that ties that to evidence-based medicine standards and guidelines and ultimately perhaps most often dropped from this discussion is patient preferences and their ability to engage and help manage and participate in their own self-care.

BAKER: Dan, I want to ask you, you work with a lot of healthcare industry companies and organizations and things. What is unique about this project? Why hasn't, that IBM and Geisinger are doing together, why hasn't this been done before?

PELINO: First, I'd like to comment about Geisinger just from what Ron's

mentioned here. Their vision of what they've done, although it sounds as if very complete and sometimes with that might appear to be complex, it really isn't that complex.

Geisinger has been committed to standards by which they would integrate and create access for this information. They did it around patient health records. They've been doing it successfully now, as Ron mentioned, for over 10 years.

And now we have the opportunity to take this and integrate clinical, financial, operational, claims, genomic and other medical data into a common system in a format that allows us then to have this rapid analysis and reporting that Ron mentioned.

We view Geisinger as absolutely a leader in this field based on their leadership model and what they've done in the past, and for IBM to be part of that is, well, it's an honor for us and we're excited about where it can go forward... Additionally there's another aspect to this. We at IBM are very fortunate to have some relationships with some of the world-class healthcare organizations around the world.

And as I go out and speak to people, we'll often reference Mayo, or Duke, or UPMC, or Sloan Kettering, or pick any of these literally around the world where we have partnerships. People would sometimes discount that and say, gosh, that happens to be some of the big household brand names but that really cannot be deployed where I live.

Geisinger is where people live. It is about families. It is about a long tradition of excellence and where it's going in the future is a place where people will want to come live if you go to live somewhere for best healthcare.

So we're honored to be part of the Geisinger family and what we're going to bring to the future here and it's really built off the leadership models that have been extended for periods of time.

And I see this going forward as a model -- as Ron mentioned, a 21st century model for healthcare -- delivering better patient outcomes, having the right kind of cost models and this level of patient activation is something that's literally on the forefront for where we need to take healthcare into the future.

BAKER: Ron, to help us then see, what would be the case in five years from now? What would a patient that this project takes off here and all this data for financial data and patient data and trends, health trends data and all this other stuff. What then, walk us through just a scenario and how it might be different for patients, you know, five, six years from now.

PAULUS: The scenario that I can see, and I can see this in the not too distant future, is a patient walks into an encounter. They swipe in with a driver's license or credit card. They're recognized immediately as to who and why they're there.

They are immediately presented with personalized information about why they're there. It may be a brief survey to collect information that's going to be important in terms of their encounter for that day.

It's possible, also, that they've done that the night prior over the Web or through an IBR phone system or at a kiosk in the clinic setting or hospital setting or ambulatory setting as I mentioned originally.

We are using the data that's available for that patient, including the most recent lab results and the historical data that we have about that patient.

That patient is actively engaged in their own care and is matching their interests and preferences to their treatment and they take an active role in helping to guide their level of involvement and their decision about how they're going to help manage their own disease as guided by an involved empathetic but highly-informed and technology-enabled clinician.

I think we have most all of those building blocks here today. We're going to be filling the gaps that we have in part with our valuable relationship with IBM. And I think this vision I just painted which to some may sound unrealistic can be quite real within the next five years here at Geisinger.

Dan, what are you seeing here across the industry as you deal with these companies and these organizations—just based on this report that IBM Global Business Services has released, what is that report and in your experience what have you found is going to be required in the future, for success here in the healthcare industry?

PELINO: So let's kind of talk about how we got here. Many of the decisions that have been made around information, information technologies and the way processes and procedures happened in healthcare organizations were made within vertical domains. So cardiology, oncologist, individual organizations would make decisions.

Very few times did people think about the horizontal integration of that information, how would that information actually flow with the patient, and would that information,

as Ron mentioned, be able to be accessed outside of that encounter.

So what do we have? We have spaghetti for information systems. We have challenges underneath now Geisinger took a leadership position a number of years ago to say we're going to standardize on certain procedures, processes and policies that allows them to be a leader about taking that information to the next level with a clinical decision intelligence system.

Other organizations unfortunately are struggling to try and get out from the morass of vertical-based decisions that they now have to horizontally integrate.

The information that we have available to us at Geisinger you can see how that spans the ability not only for the actual appointment that you have, not only for the patient to have information as they go home and they continue on their journey of getting well or preventive care...

But that information now in an anonymous way is now available to drug companies to start building out new drugs that have a positive impact for whatever that might be.

And the promise of personalized medicine is in front of us, the ability to actually be able to have drugs that will fit right to our genotype is something that is a promise that's not that far away.

BAKER: We've been talking today with Dr. Ron Paulus, Chief Technology Innovation Officer for Geisinger health system and Dan Pelino IBM's General

Manager for the Healthcare and Life Science Industries. Ron, thank you.

PAULUS: Thank you. Good to be here.

BAKER: Dan, thank you very much.

PELINO: Thanks Derek, good to be with you. Thank you, Ron.

BAKER: I'm Derek Baker for Ideas from IBM and the ibm.com home page.