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Interview of Earl Jones, SVP and GM, eHealth, GE Healthcare IT
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David Harlow: This is David Harlow at Health Blawg and I have with me today Earl Jones, who is the Senior Vice President and General Manager for eHealth at GE Healthcare IT. Hello Earl, how are you today?

Earl Jones: I am doing just great, thank you.

David Harlow: Well thank you for being with us Earl. I have to ask you, first question as we start off today is - I'd like to ask you to define eHealth. That is the definition of your bailiwick.

Earl Jones: Sure. So eHealth speaks to this concept of the connected healthcare ecosystem. So I think all of us as professionals in the healthcare industry, but also as patients in the healthcare industry deal with really frustrating issues associated with moving clinical information from provider to provider. The classic use cases that we talk about are: mom goes to the hospital with her kids would really love to have medical information from their primary care physician. That information isn't available to the hospitalist at the time of care treatment. Trying to get information from the hospital back to your primary care physician, those are challenging. That ability to move clinical information around the healthcare community is -- causes problems at that care level, also causes some, or it precludes us from getting at some real opportunities to improve the healthcare system like making cross-enterprise workflows faster, easier, cheaper; allowing us to do new care models like managing chronic diseases better, like bringing things like clinical decision support and population health to bear.

So eHealth speaks to this concept of the things that we can do in the connected healthcare ecosystem. We define eHealth more structurally as, at its core, health information exchange, the ability to take health information exchange and to do things with it. So collaborative workflows and then trying to bring performance application like quality reporting and clinical decision support and make those things available across the enterprise. So that's what we think about when we think about eHealth.

David Harlow: Okay, great. This division or business unit within GE Healthcare has been formalized within the past 6 to 12 months I believe, maybe slightly more recently.

Earl Jones: Yeah.

David Harlow: Is that a structural change is that a new focus for GE Healthcare or is it a new name for what you've been doing previously?

Earl Jones: So I think it might be helpful to put GE Healthcare IT into context. So GE Healthcare as you know we are a big global health care technology provider. GE

Healthcare is about an $18 billion business and it does three things primarily. GE Healthcare does diagnostic technology, MRI, CT, PET ultrasound, really focused on core healthcare technology. GE Healthcare does life sciences, so protein synthesis for example, bio-markers, the whole area of life sciences. And then the third part of GE Healthcare is GE Healthcare IT. And so we're a multi-billion dollar global healthcare IT provider. And GE Healthcare IT has traditionally done three things; imaging systems, that's radiological information systems, picture archiving; software for hospitals; and then software for physician practices. This concept of eHealth -- we started it as a new product line last year. But it was really born out of work that we started about 5 years ago, long before health information exchange or eHealth were topical issues like they are today.

We started this issue with a handful of our customers a few years ago who just had this problem of, wow, I wish we could share clinical information within our community and we started working with them around terminology, around hosting services, around translation, de-duplication services, really putting that core infrastructure in place that allows clinical information sharing. So it's something we've been doing for several years. But last year we elected to break this out into its own business unit for a couple of reasons; one is certainly with the stimulus that's happening here nationally and there is a lot of stimulus and attention on eHealth infrastructure globally. We thought it would be a little easier to talk about ourselves and what we are doing for our customers with our technology.

The second is, and I think it's an important issue – it's important to keep in mind, if you really want to enable cross-community clinical information sharing you have to be able to do it in a technology-agnostic way, this can't be about sharing information amongst GE systems from hospitals to doctors office to specialty facility. It's got to be able to share – we've got to be able to share clinical information in the environment that our customers live in and that environment is heterogeneous software applications, a disconnected variety of terminologies, the continuum along adoption of standards varies dramatically, I mean that's the technical and systems complexity that our customers live in. And so it's important for us to break this out into its own product line, really send the message that this isn't about GE Centricity connectivity; it's about enabling clinical information sharing in the environment that our customers live in without having to rip or replace any software.

David Harlow: Well that sort information sharing really sounds like the holy grail of Health IT and I am wondering how successful you've been or where you see yourself on the trajectory of really implementing that kind of connectivity?

Earl Jones: We feel like this has a transformative potential, this whole movement of connected care has a transformative potential in healthcare. Now let me characterize this by an example; I spent a lot of my early career in supply chain, and I was there when the factory couldn't talk to the warehouse and you literally would have to write down material pulls on a piece of paper and send a runner off to get material. And in the span of a relatively short amount of time, 15 years, we went from that to a globally connected

supply chain. And every metric that you can think of in supply chain got better, profitability, performance, service level, velocity. New business models were created; it was transformative when we connected trading partners in supply chain. And I think that kind of analogy, kind of parallel is exactly -- we're on the precipice or the beginning phases of seeing that happened in healthcare. And we've been working with customers that are doing some very interesting things. One of our customers is The Boston Medical Center and The Boston Medical Center -- it's an inner-city hospital here in Boston – it's connected with 13 unaffiliated clinics. So clinics that have a different governance structure from Boston Medical Center.

And they came together and they said wouldn't it be great if we could share clinical information in our community? And they did that using our health information exchange technology, and they're doing some really fun things with it, right? They are able to do things like health emergency room doctors make better care decisions. So it's tough being an ER doc. An ER doc gets the patient, may have no medical history of the patient and often times they are dealing with some pretty acute issues. Now at The Boston Medical Center if a patient comes in, if they are part of the community and belong to one of the community clinics, if there is no medical record at the ER at the Boston Medical Center for the patient, the ER doc can look into the local clinics and via the health information exchange and get information about the patient. And these can be life-saving kinds of information, thing like allergies, medications that the patients are on. Being able to get that kind of clinical information to an ER doc is important.

They are also using the health information exchange to enable a better way of doing referrals management which in healthcare is an awkward and expensive process that often ends with a lot of patient and doctor frustration because it's not well managed from an information perspective. They are doing population health, right? They're able to, now, because of sharing clinical information in their community, they're able to understand the overall impact of some of their patient outreach programs because they can actually see it in the data whether they are making a difference. So, here we are in Boston, small hospital, a relatively small community, doing some really important things in their community because they're able to share clinical information. That's kind of exciting.

David Harlow: It is -- and I guess the next step is to see whether this can be bridged beyond a local system where it's a dozen or so community health centers that are affiliated with Boston Medical Center and take that beyond. So someone who is away from home, out of town, goes into an emergency room can those records be pulled up remotely or is that something that you see us heading toward?

Earl Jones: I think we are squarely in the early adoption phase of this whole eHealth program. I mean we're in the first steps of the first mile of a marathon. But looking at parallels in other industries, if we stay committed, if we continue to focus on value, in the span of what could also be a relatively short amount of time, it's not inconceivable that we'll have the way to share the information nationally for the betterment of care providers and patients. So we're not there yet, I mean you can think of where we're

heading as lily pads on a pond that we're going to see a lot of community health exchanges like Boston Medical Center pop up and start filling the pond and the good news is that organizations like IHE have been thinking about how do we make these lily pads, how do we make these community health information exchanges, work together and so there are good protocols and methodologies for cross-community access of information that over time we'll see get built out.

David Harlow: Are you optimistic about some of the Federal initiatives building on the ARRA and HITECH Act initiatives on local medical records systems, to build out the NHIN Connector or other sorts of interchange infrastructures, through Beacon Communities or other programs?

Earl Jones: I give ONC a lot of credit. This is a thorny problem, a lot of stakeholders, a lot of different ways to come at this, and what they have done is they said look here are some functional requirement of things that we want to try to get accomplished because they are going to make the healthcare system better. Here's $42 billion to help get you going, and if you aren't adopting the technology for the betterment of our national healthcare system, in a handful of years we're are going to move from carrot to stick, it's just conceptually, what they are trying to do from an overall change management perspective makes a ton of sense and it really by any measure what the ONC has done has really crystallized this concept of connected care in our industry.

NHIN is interesting, I think NHIN is evolving; I am not sure what NHIN will look like whether it will be servers moving data or it will be just a concept that we are building toward. I don't know what it is going to look like in future I am not sure ONC does I think that's something that's evolving and I think that's okay. This concept of Beacon Communities which you brought up I think is brilliant. You know in any large organization change management -- and by any definition trying to change US healthcare system is a large organization change management problem -- one of the best ways to drive momentum behind the change program is to create showcases. You know, let's go create some examples of where people are out ahead of the curve in technology options, out ahead of the curve in thinking through new process and ways of using data and bringing communities together. In using those showcases sort of as beacons to bring the rest of the organization along and in context, I thought the Beacon Communities program is brilliant and you know let's hope that monies that gets flown down to Beacon Communities when the final grants are announced, let's hope that folks put that money to good use and really create some spectacular showcases that prove the case for why connected healthcare is so important.

David Harlow: Now we might say that the government gives with one hand and maybe takes away with the other. In concert with the grantmaking and incentive producing rules and regulations that have been coming out, there is also now a discussion about regulation of healthcare IT as a device by authority of the Food and Drug Administration. I guess some would say that you can't really serve two masters, and that the Federal government should come up with some sort of integrated approach on eHealth and EHRs and other related systems and programs. The FDA is working with ONC on trying to

develop a way to work together, I suppose. I am wondering if you could speak to through your experience with these organizations, these agencies, and where do you see this heading? Where would you expect this to end up? Or where would you like this to end up?

Earl Jones: The FDA often gets tough rap because their job is tough one. They really perform an important public service which is ensuring that things like healthcare are out there for the betterment of the citizens of the nation and aren't doing negative things around helping improve people's health and welfare, so you know they have a tough job, I have tremendous respect for professionals that work in FDA and you know I think they wake up everyday really thinking about how they do their job as best as they can do it to protect the citizens in the US. As far as my experience has been they have been very, very reasonable in their approaches. I think they could take some very draconian regulatory positions if all they want to do is think about their job only as regulator. But I have always found them to be very open in thinking about how to work through a problem in a balanced way and as far as I can tell when it comes to health records they are doing that very thing. They haven't just launched in, saying look, we're going to go regulate it, they haven't said that this is off the table either, because they recognize the importance of IT in the overall healthcare continuum.

So, from my observation is they are taking a very measured approach. All I can say however it comes out you know GE is no stranger to regulated environments we are ready for it; if it doesn't get regulated, that's fine to. The only thing that I think we would encourage is -- let's not slow the progress down that ONC is driving; I think we really do have some great momentum, if it ends up regulated let's come at it in a way that doesn't slow the market down. I think that calls for good balance, good collaboration and my sense is that FDA has got that top of mind

David Harlow: So I think that the FDA may be working together with ONC so that some of these regulations may end up folded into the meaningful use certification process. So to the extent that all can be harmonized, it'll certainly be better than having to deal with two separate organizations.

You spoke earlier about respecting the patient-centered aspect of healthcare IT and I am wondering whether you see this sort of regulation as a challenge to that? And also whether -- how you would characterize some of the work that your organization has being doing, in meeting the needs of patients in a patient-centered sort of way.

Earl Jones: Yeah. It's a great question. I think there is a lot of discussion around moving from a payor/provider-centric to let's go put the patients in the middle because that's really at the end of the day what's this is all about – care, treatment, for the patient. And I think it's a very healthy dialog. The whole concept of electronic health records, and again let me just be clear electronic medical record -- think of it as sitting on a computer in a doctor's office, literally or virtually. Electronic health record is a sum aggregation of the health information of the patient that lives within a healthcare community. And this concept of electronic health record, one patient, one record available to the primary and

specialty care providers that are treating a patient, that's a very patient-centric concept which is absolutely what we're trying to enable with eHealth. Things like privacy and security -- those things we take very seriously and are very integral parts of our health information exchange infrastructure. And -- so I think this whole focus of how do we empower patients more, with better information, better tools and do it in a safe, secure private way is exactly what we are trying to do with our solutions.

David Harlow: Great. Now one of the solutions or products that you're rolling out is Qualibria, which was previewed or announced at the HIMSS conference a month or so ago. I am wondering if you could explain a little bit what that system is, what it's built on, and how you see it rolling out?

Earl Jones: Sure. We are exceptionally excited about Qualibria. Qualibria is a clinical knowledge platform. So what does that mean? Let me characterize this by the problem that we were trying to solve with this technology. Dartmouth did a study and said if everybody in the nation was as good at care treatment as the Mayo clinic, they said $40 billion would have come off that number [cost of care] and if everybody was as good as Intermountain something like $119 billion would come off the number. I am probably misquoting the numbers. But the concept is it turns out Mayo and Intermountain are really good at what they do and if we could just harmonize and reduce the variation in care treatment across the country, we could take a substantial chunk of the cost out of the system by just providing better care.

There are couple of other alarming stats that go along with this; one is that the medical body of knowledge is doubling every 8 years, or more quickly. And I think we can go: Wow, when all this genomic stuff starts hitting, we start getting really targeted around that kind of care treatment based on genomic data you can see the medical body of knowledge exploding even at a more accelerated rate. Tie that in with the fact that it may take as much as 17 years for a best practice to propagate out throughout the medical community, you quickly get this vision of, wow, there's a lot of variation in the quality of care delivered and as it turns out, we patients only get the best practice treatment -- for whatever the disease state or illness or injury that we're dealing with -- we only get the best practice care treatment a little over half the time, like 55% of the time.

So the problem Qualibria was trying to solve was, wow, can IT do something to make that better? And it turns out it's really hard. The things that Mayo and Intermountain are doing – they're instantiated their own systems but they are pretty complicated sort of flow chart processes for treating something like acute respiratory disorder. I mean it can be as detailed as: at this time turn the respirator to this value, give the medication certain minutes after this care treatment.

Trying to take that and do it in a system like Intermountain's hard. Trying to translate that across systems, turns out you had to rethink the architecture. And that's what we did with Qualibria. So with this partnership with Intermountain and Mayo we launched into a total rethink of a technology architecture which includes a pretty advanced clinical element model and something like several tens of thousands of rules that are then built on

top of the clinical element model that allow you to take complex terminologies, draw insights and attributes from that and use that clinical element model to create decision support tools. And Qualibria is our first product that's going to roll out from the partnership with Intermountain and it's designed to do that very thing, which is take disparate information aggregate it, be able to put single patient, multi-patient views with clear alerts and processes and tracking that can immediately become useful -- I don't have to rip anything and replace it -- drop it in and immediately become useful in a hospital clinical setting in driving better coordinated care. So it's very exciting.

David Harlow: You sound excited; sounds like a very exciting project and product. So do you see this rolling out beyond Intermountain and Mayo in the near future?

Earl Jones: Yeah absolutely. I think our product plan is to – so it's up and running now -- and to roll it out to a couple more controlled sites the balance of this year, before a more broad national rollout in 2011 and will quickly be followed by international rollouts as well. So it's something that we put a lot of research and development money into, we've got great partners that are helping us and I think it's important to point out that we love Mayo, we love Intermountain -- I mean their bona fides are tremendous. But there are a number of healthcare institutions that are doing some really wonderful things in advancing the medical body of knowledge on specific care protocol treatments. And this technology can allow them to better and more quickly roll out the things that they learn as well. You can build your rules right into the tool. So we'll have care bundles that are mapped after what Intermountain and Mayo do; it's also going to be a wonderful environment to quickly take things that hospital systems are doing in an excellent fashion themselves and instantiating that in a tool that can be rolled out across their enterprise.

David Harlow: Now with this new kind of tool, do you have a concern about new kinds of liabilities, legal liabilities, as you are essentially rolling out as you said bundles of decisions support rules -- does that not come along with additional liabilities, whether it's the content or the application of the rules or even perhaps a different kind of liability in terms of encountering corrupted data or other sorts of problems rather than the decision support rules themselves.

Earl Jones: Well I am not the best person to answer that question. Certainly we take all these things tremendously seriously and it's been very well thought through. None of this replaces the need to have experienced care professionals orchestrating the care delivery, right? This isn't -- lets get rid of docs and nurses. This is about how do we help docs and nurses deal with the tremendous complexity and a tremendous body of knowledge and time variant change of body of knowledge. It's about giving them some tools that can help them do their jobs better. So I think that's a very important distinction that -- I think there is a statement that says something to the effect that the complexity of modern health care surpasses the human mind sort of gets your mind around it. It's too big for anybody so we think that what we are trying to do is not replace docs and nurses -- quite the opposite – it's to give them some important tools to help them do their jobs better

David Harlow: So are these tools part of what the company has been referring to as healthymagination and a large investment and innovation and health care?

Earl Jones: That's certainly part of healthymagination so let's talk about healthy. And first I'm going to talk about something different -- I am going to talk about ecomagination. So we launched this program about five years ago called ecomagination and at the time one of the real pressing global issues is the environment; it still is. It's a huge, huge problem, and Jeff Immelt, to his great credit, stood back and said, you know, as the General Electric Company we can be doing more to help this important issue of environmental sustainability. He said let's do it like an operating company, like GE ought to do it, which is let's set ourselves some clear goals, clear metrics and really rally behind it not just as a fad initiative but as something that becomes part of our culture and DNA and we called it ecomagination. We said that we are going to invest more in environmentally-friendly technologies, we are going to do our job to try to inform the public on issues related to the environment, and then we are going to try to walk the talk and reduce our own greenhouse gas emissions as an enterprise and that was launched a handful of years ago and it was just a smashing success -- great for our employees, great for our customers, and really it was a revitalization of our culture around environmental sustainability.

A couple of years ago Jeff sort of took a step back and said health care is going to be -- it is, and will continue to be -- a pressing global problem of tremendous importance and magnitude and not only are we a big health care technology company but GE pays a tremendous amount of money, several billions of dollars in health care costs each year. He said we can be doing more as the General Electric Company to lead in the evolution of health care. So in a parallel construct we launched this initiative called healthymagination. Yet again, as a good operating company, what are we trying to do? It's really focused around bringing innovative technologies -- this doesn't mean high technologies it means innovative technologies. Some may be high technology some may be low technology but innovative technologies to help improve quality of care delivered, reduce the cost of care delivered and improve access, and we are going to put about six billion dollars of investment into technologies globally aimed at these three metrics. We're doing our job to inform the public about issues related to health care. We launched the largest advertising campaign in the General Electric Company's history, I believe, earlier in the year concurrent with the Olympics with some really lovely -- some times funny, sometimes poignant -- commercials around health care, I think they were very well received . And so healthymagination is more than an initiative -- it's a major focus for the company, again trying to get at culture, DNA, around thinking about health care differently and making sure that we as the General Electric Company are doing our part trying to help the world improve on cost, quality, and access to health care

David Harlow: OK, well thank you. So any last words on what you are doing now and how you see your division moving forward under the HITECH Act and now under the new health reform law

Earl Jones: Well certainly we're very happy about the HITECH Act -- that's been great for the industry. I don't know there is a whole lot of – well, some money has been flowing down, so it's been great, but more than anything else it really has gotten people galvanized and motivated and gained some momentum around changing the landscape of health care IT, which is great. But, by the way, this is happening on a global basis, so sometimes we like to think about the world as being the 50 states here, but there are some folks in China, in Singapore, in India, in the Middle East, in Saudi Arabia, in Europe, in Brazil, I mean folks are really doing some innovative things with health care IT globally and so eHealth is absolutely playing in that arena. We are very focused on delivering value for our customers here domestically, but frankly just very focused and very passionate about the opportunities to help health systems and countries on a global basis as well. With reform, with health care, HITECH Act, with all that, the challenge that we have, and I think other people may have it as well, is not to get carried away – we've got to stay good at what we do, which is sort of sticking to our knitting, if you will, which is working with hospitals, working with IDNs, working with health information organizations, but working with folks around delivering real, concrete, measurable value. And I think as long as we do that and stay focused on solving the problems and pain and enabling new care delivery models, enabling new transparency and performance reporting -- as long as we stay focused on what we do well, I think we feel very good about the future. We love all the reform, we love the HITECH Act, but I don't want to get carried away and focus on chasing that money. I think we're just going to stay focused on trying to solve hard problems for our customers.

David Harlow: Sounds like a plan. Thank you very much. I have been speaking to Earl Jones Senior Vice president and General Manager for eHealth at GE Healthcare IT and this again is David Harlow on HealthBlawg, thank you once more.