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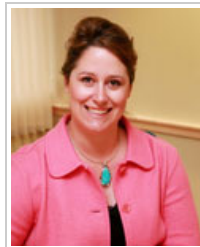
**Patricia Whelan, MHA, CIO: Leading Shield's E-strategy Charge**

Posted: October 15, 2008

by **Cheryl Proval**

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Armed with a master's degree in health administration from Ohio State, Patricia Whelan, MHA, went to work for Ohio State Medical Center in 1993. In 1997, she completed her two-year postgraduate fellowship at Massachusetts General Hospital (MGH) and took a position as business systems consultant in the department of radiology.



Patricia Whelan, MHA

Nine years later, having served as MGH director of informatics, she accepted a position with outpatient imaging leader Shields Healthcare Group and currently serves as that organization's CIO. Shields operates 28 MRI centers in Massachusetts and Rhode Island and three radiation-therapy centers in Massachusetts. Whelan is spearheading a major e-strategy initiative for the company, and she spoke candidly with ImagingBiz.com about the role of informatics in the outpatient imaging business and the new demands on the CIO.

**ImagingBiz.com: How important is business intelligence in the current outpatient imaging market, and what role are you playing, as Shields' CIO, in gathering this?**

Whelan: The role has changed quite a bit. Five, six, or seven years ago, we were all working very hard just to support the core functions of the business. With the introduction of virtualization and other groundbreaking technologies, CIOs have been able to transition focus from just keeping everything running and developing the IT road map to thinking more creatively about how to define the framework for data-driven business decisions. As such, business intelligence has become a strategic imperative in outpatient imaging. In particular, it's encouraging all of us at the senior-management level to think about what data we have, what data we need to compile, and what data aren't meaningful.

In many ways, the CIO has become the chief architect in determining the framework to make data-driven decisions, and people interpret your role differently. You now sit at the table driving the business through advancements in technology, instead of fulfilling a support role. It has been a very different ride because of that change.

**ImagingBiz: Can you describe the interface between C-level executives in devising a business-intelligence strategy and the mechanisms in place for communications among executives on this subject?**

Whelan: That's another C word: collaboration, collaboration, collaboration. I think there is more dialogue between the CIO and all CxOs in a company than ever before. Whether you are talking about clinical or fiscal integration driving the CIO conversation with the CxO, or even making improvements in tracking data for clinical outcomes tying the COO and the CIO, it's made the job and the career much more rewarding, but also, again, transitions the CIO to being a true

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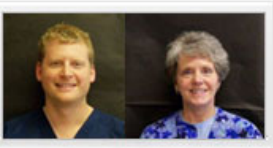
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stakeholder in the company, not fulfilling a support function anymore.

One of the biggest advances we've had is the partnership between marketing and sales and IT: being able to work on a couple of new projects where we are actually able to share market trends, market research, and, in particular, market share with our regional managers and sales staff. It's made a huge impact even in terms of the overall management structure of the company, because the dialogue is happening in different ways. We also do a fair amount of performance charting, which is also something relatively new. We are moving out of the retrospective analysis and into the area of projecting and forecasting. The vision and the thinking are changing because of the way we are able to present the information.

One example that comes to mind that is relatively simple is market share. Shields has roughly 28 locations in the state of Massachusetts. Taking the state, breaking it down into regions, and being able to report based on region and actual market penetration—and having those figures available to the senior-level staff—is allowing them to devise and develop strategies based on where they see advantages and disadvantages in the market. Before, we didn't tabulate, look at, or even present those data in that way, and it has sparked a whole new approach to how we think about our community-based business.

**ImagingBiz.com: How are you leveraging existing software tools to craft an executive dashboard from disparate information systems? Are you writing any software?**

Whelan: That's been a challenge for a long, long time. It's been very frustrating to me that from patient visit all the way through paid service, data still pass to more than 12 systems. That sounds ridiculous until you really start parsing them out: You've got a human-resources system, a payroll system, a general-ledger system, an electronic-coding system, a voice-recognition system, a billing system, and we haven't even gotten to the PACS or the RIS. We never thought we would be in an environment, in 2008, where we have so many silos, from a systems perspective.

It certainly is something that is changing, but it's not changing very rapidly. One of the examples I would give would be the RIS/PACS movement of 2004–2005, where you saw PACS companies acquiring RIS companies and RIS companies acquiring PACS companies. This was going to eliminate one of the silos. Everyone was running a separate RIS from a separate PACS. A lot of that didn't take hold, as many institutions weren't able to let go of their existing investments.

We are probably never going to get to the point where we don't have so many silos, so what you see happening is this concept of business intelligence, which is one way to get cuts of data from multiple systems such as the RIS and the PACS. The primary tool we are piloting here at Shields is Microsoft® SharePoint, combined with our own .net programming resources. The majority of the proposed executive dashboard is going to be written in .net, but there are two purposes of that dashboard. One is to determine how we are doing today, in 2008. The other is to show the pieces we were talking about before, such as market share, that give you a glimpse into the future and suggest where you might want to drive those opportunities.

**ImagingBiz.com: You are in the midst of re-engineering your e-strategy at Shields to drive more transactions online. What are the timetable and mission for this initiative, and where did you begin?**

Whelan: On October 24, we will launch our new Web site, <http://www.shields.com>. That e-strategy includes a number of different pieces, but we want to connect with our clinical referrers and medical professionals in a more interactive way than we have in the past. We want to reach out to patients and allow them to conduct more of their business online because, as our founder Tom Shields says, we need to be easy to do business with; having more tools at the patient's disposal will help us to be easy to do business with online.

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The other piece of it is purely an educational mission: building a site that really helps medical professionals and patients demystify the MRI experience. We are introducing some interactive tools, such as a body map that teaches something to patients who click on the knee, for example. It shows normal and abnormal knees, with our medical director describing the normal knee and the pathology. The patients take a virtual tour of the Shields MRI experience and even listen to an MRI for the first time.

The cool thing about this is that we are going to be able to work with patients before they ever arrive at Shields to ensure that they have a better experience. Through the introduction of these Web features, we hope we will be able to reduce patient anxiety. We have special sections for kids and MRI, larger body frames and MRI, and claustrophobia and MRI. It's really designed around helping patients understand what the experience will be like, reducing anxiety, and providing some insight to help them understand what the product of radiology is.

We talk about the product in terms of two things: one, the report, and two, the images. We started this e-business strategy in 2002, with the launching of Shields ExpressLink, the online referring-physician portal. Our focus, in 2008, has been beyond images and reports. We offer images, reports, electronic ordering, and CME credits online; there's a whole series of things that are available to the referrer. It was a huge accomplishment, in 2002, to offer secure access to reports and images online. Today, that's not enough. We used to say, back in 2002 at Shields, that he who gets it to the physician desktop first wins. Today, it's not enough to have it online and have the results available on the Internet.

The majority of our work today focuses not on the Internet, but on integration. There's an important difference. For physician practices today, it's not enough to have a Web portal where referrers access results with a user name and password. The physicians want to see these data and these results in their format, on their electronic medical record. It's really about integration and not the Internet. It has been an interesting change for us to make that shift. Having the Internet is good, but we are moving into the next evolutionary stage, and that is the integration piece.

**ImagingBiz.com: Please describe how you expect your e-strategy to affect the financial, operational, and clinical domains of your business.**

Whelan: The e-business strategy at Shields will have an impact on every department at Shields, from finance to operations to the clinical departments. In finance, for example, we hope, through working with the insurance payors in the state of Massachusetts, that we'll be able to display the deductible amount the patient has left to pay in our patient portal. We hope to share copayment amounts with patients if they log into what we call their MyShields record, before they even come visit us. Before they visit, they can go online and pay their copayment, and we've chosen PayPal as a partner. From the finance perspective, patients will be able to pay online up to their deductible amounts, because we will have the latest information from their insurance companies. They will be able to prepay a copayment online or, after their visit, go home and pay their copayments online.

With regard to operations, patients can request a CD online through the patient portal. At the moment, we still require them to come in and pick it up because we'd like to see their identification. In the future, we will use identity-verification software that will add an additional layer of security and will allow us to offer the option to burn a CD from the online portal. Another example of an operational impact is that patients will be able to go online and complete preregistration tasks. They can update their insurance and current addresses and do a number of things before they arrive that will make things easier upon check-in.

Clinically, Shields hopes to launch a multimedia report in fall 2009. I feel very strongly that to be competitive in this outpatient imaging market, we have to change the product of radiology. In my opinion, the product of radiology is a left-margined book report whose format has limited utility in an environment where referring clinicians are busier than ever. Take a look at this thing: Do I need to order a follow-up exam? Is it positive? Is it negative? They need to know information quickly, and the product of radiology is not keeping up with the pace of medicine. We need to change that. We hope to move forward with a report that includes tables, values, measurements, and positive and negative classifications.

Now, physicians will tell you that positive and negative classifications are impossible, but we have come up with a classification at Shields that is actually going to work. It's not as clear-cut as positive and negative, but there are basically four classifications for a report, and every physician will use a 1, 2, 3, or 4 to classify that result outcome. That enables us to do a couple of different

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things: supply insurance companies blinded data showing what percentage of our reports were positive, clinically indicated (meaning you ordered it for lung cancer and it was lung cancer); positive, not clinically indicated (you ordered it for lung cancer and it was pancreatic cancer); no findings, completely normal study; and negative, but requires follow-up, or there is a recommendation.

For instance, there is a nodule in the lung; we don't think anything needs to be done about it, but to make sure it's not growing, the patient needs to return in six months. I really hope that we get some support for this. We would like to launch with that and four representative images—and the number may change—embedded in the report. For the first time, you are getting the report results plus four representative images that show the pathology. It will be a challenge to create buy in at all levels of the organization to achieve this in 2009; however, we all agree that we need to continue to invest in ideas that differentiate us from our competitors.

**ImagingBiz: How important is price transparency in the outpatient imaging market, and how will Shields cut through the payor complexity to respond?**

Whelan: Price wasn't really a highly visible issue until the debut of the Massachusetts insurance plan's high-deductible plans. It wasn't important until subscribers had to reach into their pockets to pay for services up to a certain dollar amount before their insurance kicked in; when that happened in Massachusetts, all of a sudden, the subscribers of particular insurance plans were asking for data the market doesn't provide. They were asking how much MRI costs here, there, and everywhere. Suddenly, people started to shop for health care services, and what they found is that there is more online information available to you when you are buying a used car than when you are trying to compare places where you can get a knee MRI for your son who was injured in Friday night's football game.

Some consumers feel that price, along with clinical excellence, makes a difference. Other consumers feel that they will go wherever their referring physician has a relationship. For certain injuries, though, people want to have the choice. It's always been this mystical relationship thing that has driven where people go for their health care. The interesting thing about your question is that the payors are already onto this. The payors are starting to drive some of the transparency discussions because the payors know, for example, how much they are paying for a hospital-based MRI versus an outpatient MRI. With consumers clamoring for choice and price information, combined with what the payors already know about what the price is to be, I think you're going to see some pretty interesting changes in plan options provided by payors in the very near future.

**ImagingBiz.com: Let's talk about the trend toward consumer-driven health care and how Shields is responding. Can we begin with your patient portal and its current and planned future functionality?**

Whelan: Portability of health information becomes a paramount concern in a consumer-driven market. Google Health Service and Microsoft HealthVault have two different strategies and, therefore, two different solutions. We are working with Google Health Service to add the ability to upload patient reports and images to the online record from our portal.

**ImagingBiz: In your six years as CIO at Shields, how has your role evolved, and how does it (or doesn't it) reflect broader trends in the general IT marketplace?**

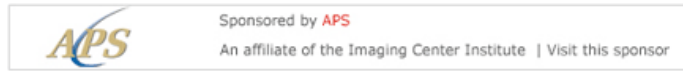
Whelan: For some companies, the CIO, for quite some time, wasn't necessarily involved in the broader discussions of vision and direction of the company. It goes back to what I said before: Technology is here to support operations, technology is here to support marketing and finance, and that's completely not what is happening today. IT is no longer an internal department function; because of the Internet, it's become an external strategy.

Boards are turning to CIOs and saying, "How do we leverage technology to drive the business? How do we market ourselves and demonstrate value? How do we differentiate ourselves to achieve a competitive advantage?" These types of conversations really didn't occur in the past with the frequency they do today. It's this whole concept of moving from a support role (keeping the machines running) to actually driving and setting the direction of the business through technology solutions. It's a whole different way of thinking. I, for one, am very glad to see that many companies are starting to realize that if you leverage technology, you can grow the business. Technology as a growth strategy is something that must be embraced in health care.

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