ROUNDTABLE

BUILDING THE DIGITAL HOSPITAL OF THE FUTURE

The healthcare industry is moving toward a system where information can be secure, reliable, and easily accessed. The goal is to give caregivers the ability to concentrate on caring for the patient, rather than wasting time with burdensome technology and inefficient care delivery processes. HealthLeaders Media recently convened a panel of experts for a high-level discussion regarding what moves hospitals should be making now to prepare for a digital, interoperable healthcare system.

Panelist Profiles

MARC GIBBS,
chief information officer,
Crouse Hospital,
Syracuse, NY

SCOTT JOSLYN,
senior vice president &
chief information officer,
MemorialCare Health System,
Fountain Valley, CA

DENNIS MORLEY,
director of healthcare sales,
CDW Healthcare

TIM STETTHEIMER,
senior vice president & regional
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St. Vincent's Health System,
Birmingham, AL

CARRIE VAUGHAN,
senior editor/technology,
HealthLeaders Media,
Brentwood, TN,
moderator

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Roundtable Highlights

HEALTHLEADERS: *How are the American Recovery and Reinvestment Act of 2009 (ARRA) and the push for "meaningful use" shaping providers' investment in information technology?*

TIM STETTHEIMER: What is positive is that it's not just electronic health record utilization, it is looking at outcomes and trying to understand what difference can be made from the technology. This is new territory for most hospitals and physicians' offices in terms of implementation. There are different reasons for that—capital, commitment of the clinicians, and commitment of the administration to move in that direction.

Tim Stettheimer
senior vice president & regional CIO
St. Vincent's Health System

DENNIS MORLEY: Most providers haven't begun to transition to a paperless environment. Twenty percent or less of hospitals are utilizing CPOE technology. It's evident that a massive effort will be needed to enable hospitals to meet even the minimum criteria. For many providers, the needle is at zero, and we've got to help them get to 60 in record time.

MARC GIBBS: For the first time, you have a true impetus from board members, the CEO, and, most important, the chief financial officer. You're seeing somebody willing to pay.

STETTHEIMER: This is not a slam dunk for every healthcare provider. The ROI calculations are taking place, and for some hospitals, it's a clear win. For others, they're just trying to decide whether they can handle the penalties.

GIBBS: We work with a 50-bed hospital that we provide services to, and we've calculated they could end up with about $4 million from ARRA. But the investment they're going to have to make will be difficult. So do you do the investment more slowly, so that you can spread the cost out enough to be able to at least get some of the money? Rural health is going to be in trouble unless they're partnering with somebody.

SCOTT JOSLYN: It's like a land rush because stimulus funds have been put out there. The key to success with EMR rests with physicians. We're looking for ways to help physicians achieve meaningful use, not for the sake of receiving funds, but to advance, improve, and partner for better healthcare in areas like disease management.

STETTHEIMER: Healthcare is still about local culture and relationships. For example, data ownership issues between physicians' EMR and our EMR—how will that work? Physicians are still trying to figure out if this is a carrot they want to take a bite of or a poison apple that they may regret later.

GIBBS: A lot of physicians are in one-, two-, three-doc practices that are scrambling to figure out what to do. We would like to provide those services. Unfortunately, we don't have the capital available to us to make it happen.

JOSLYN: We're leveraging our economies of scale with Epic and making it available to our physicians. As a result, we are now a service provider to our independent medical staff. We believe this strategy eases the transition of our physicians into the new world of EMRs. We will also integrate physicians using other EMR products. In that way, health information can safely and securely circulate among providers in our communities for the ultimate benefit of our patients.

GIBBS: If you're not moving toward an integrated care delivery system, then you're going to be in trouble.

STETTHEIMER: The sustainability of HIEs, even the successful ones, is still in question. How do you keep it going outside of that initial burst of funding?

JOSLYN: Accountability will be the reason exchange happens. We're going to have to move the data around because it's the right thing to do. If you're going to hold a group of providers—however they're organized economically—accountable for a population, you're going to have to move the data around.

HEALTHLEADERS: *Let's talk about an outcomes-based payment model. If healthcare moves in that direction, how does that affect your IT strategy?*

GIBBS: If you shift to an outcomes-based model from the traditional fee-for-service, and you go to bundled payments, you're saying to the doctor and the hospital, "You figure it out. We're going to give you X amount of money for this outcome, rather than it being driven by each individual episode." It changes the whole dynamic.

JOSLYN: Bundled services and accountable care organizations bring us the additional benefits of EMR, namely the ability to use care data to better manage patient care across the continuum. This represents a new opportunity for

every healthcare organization to best "exploit" EMR data. The outcome of data mining helps us better understand best practices and the complete picture of the patient's situation in greater detail than ever before.

MORLEY: The principal challenge isn't a lack of technological capability or the need for a new IT strategy; it's securing the necessary funding to shift the focus of application and workflow.

STETTHEIMER: The problem is in the maturity of the actual EHR, not just tool sets. Some of the issues are with standards and data definitions and dictionaries and everything else that is needed to reach a point where you can do meaningful analytics, particularly across EHR platforms.

MORLEY: Vendors have collected a significant amount of clinical data over the years and have a pretty good sense of where it's working. When a vendor partners with a provider, they may offer a framework to support differential diagnosis data or standardized treatment plans for certain diseases.

GIBBS: Right now, the models from the vendor population are two segregated groups that need to come together. You have the groups that are focused on cost accounting and the financial reimbursement aspects of the decision-support spectrum, and you have the vendors that have been on the clinical side. If you want to get to outcomes, you need to put the two pieces together in an integrated format where you can feed from the EMRs to the decision-support tools.

Marc Gibbs
chief information officer
Crouse Hospital

JOSLYN: If you had medication information from your patients, it may not match up perfectly among pharmacies, but you will know a lot about the patient. It's the same thing with claims information. Providers who can see claims across a variety of payers can discern what's going on with a patient. We're going to have to start doing that on the clinical side.

STETTHEIMER: The challenge is the process metrics that we need during the process of care are not there. Let's talk about error rates. There are no definitions that are agreed upon—no platform, no vendor; no one would agree on those precise parameters. It becomes challenging from an analytics perspective to track to those metrics and improve.

GIBBS: Another issue that we don't talk about frequently is the enterprise master patient index. How does one numbering system match up to yours or somebody else's?

MORLEY: Based on where the industry seems to be heading, MPIs will become a critical tool. They will play an indispensable role in providing clinical and reimbursement information.

JOSLYN: We're doing it to some degree now and it is challenging. We have an Epic-to-Epic connection, which is two independent organizations that happen to have Epic that connect to one another. A hospitalist taking care of a patient is able to reach into his system and look at the patient's encounters with an independent physician organization and bring that information into the inpatient situation.

STETTHEIMER: What you just described means you're taking data that's in one EHR and populating another EHR. It's proliferating copies of the data. You potentially could get into the scenario where everybody has copies upon copies of data, and then you get into all kinds of interesting challenges around who has the exact right copy. Why would you want to replicate data like that potentially thousands of times?

JOSLYN: In that particular case, it's not the whole record.

MORLEY: Not to downplay the complexity of managing patient data, but when you apply for a loan at a creditor with whom you've never done business, your bank doesn't send over your entire record and then wait for it to come back with changes. You provide access to certain information upon which the creditor makes a decision about worthiness, loan size, and rate. These organizations are able to pull the information they need in real time because they have invested in the technology and worked out the associated processes.

HEALTHLEADERS: *We still have a fee-for-service reimbursement system, so when do you start investing in technologies to prepare for an outcomes-based reimbursement system?*

STETTHEIMER: You build triggers into your road map. You may be setting up different scenarios based upon the definition of meaningful use. Do you pull the trigger when the final rule is released? If you're too early, you will incur significant investment and cost before you ever get to a means to recoup it. And the sustainability of that health provider is then going to be questionable.

JOSLYN: But meaningful use is a means to have outcomes management. So those heading down the EMR adoption path are either consciously or unconsciously moving in a direction to be outcomes-based.

GIBBS: We've started to invest heavily in the decision-support system so that

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we can prepare ourselves longer term to more effectively use the data.

STETTHEIMER: We see the potential for capital freed up based upon a variety of drivers, including meaningful use. But the handle is on the tap; it's not quite turned yet in most cases.

JOSLYN: Our governance board has become much more interested in seeing a return on IT investments. When we began pursuing EMR well in advance of ARRA, our board said, 'We want you to make an attempt at an ROI.' We came up with 20 measures. That forced us down a more disciplined path in those investments because of economic realities constraining capital in healthcare. As things become more of a utility, it's become a cost of doing business.

GIBBS: While capital dollars is one piece, you also have to recognize the significant increase in the operating expense from these projects.

HEALTHLEADERS: *If you look at decision support and the amount of data involved, what infrastructure requirements are needed to support that?*

JOSLYN: Storage and bandwidth are a huge deal, especially as they relate to imaging. Every year, for example, we go up by an order of two the number of slices we need in a CT. At some point, maybe there's diminishing return.

STETTHEIMER: The disruptive things in terms of storage, computing power, and bandwidth are going to include things like digital pathology and genomics. As we really get into integration of imaging into core enterprise imaging repositories, those things become more disruptive to the path that we've been on in terms of the meaningful use requirements.

GIBBS: Even the digitization of the cath labs substantially increased the amount of bandwidth and storage that you need. When they start going to digital, you're talking 1 gig per study in terms of the raw storage.

MORLEY: Hospital executives are asking their IT departments to take the lead and deliver applications without really understanding the level of investment required to build a sustainable infrastructure. Clinical applications have to be supported with high performance computing, scalable storage, and broad bandwidth. Without those elements, applications will perform sluggishly or fail, frustrating caregivers and causing widespread adoption challenges. IT executives are caught between a rock and a hard place because they can't effectively deploy these strategies with the current budget structures or constraints.

STETTHEIMER: We have to be careful about leading the charge. What we try to avoid is the IT organization doing "the ask" for these technologies, particularly when it comes to big investments. We want to come in as a partner with the business owners. If it's the radiologist, nursing, we want our business owners to be pointing out the value proposition that's involved with these technologies.

MORLEY: A major responsibility of the IT team is to operationalize the strategy as defined by the core business constituents. IT executives should collaborate with the business owners to determine the path forward.

HEALTHLEADERS: *What do you need in terms of bandwidth and storage to get ready for more interoperability?*

STETTHEIMER: There's at least three sides in terms of looking at data flow involved with those systems. One is how big are your pipes? Are you running copper, fiber? But also when you're hitting a switch, what is that taking you down to in terms of the ability of the pipe to keep bandwidth—from the device, the desktop, the modality to the servers, the storage. You have to look at the management of the data flow on that pipe.

Dennis Morley
director of healthcare sales
CDW Healthcare

GIBBS: A lot of the systems are becoming ASP-driven, and that means that you now have to have a more robust system in terms of your Internet connection, and you have to have the same level of redundancies to ensure that you're going to have consistent ongoing support.

JOSLYN: It's not that storage and bandwidth requirements aren't daunting, but they're manageable. It's design and architecture—there are good and bad ways to design a network. The stimulus fund timeline is causing some new to EMR to go faster than is prudent, especially in putting together the right architecture.

GIBBS: Most of us have not been as good about doing risk assessment as the financial industry. Until you get to the point where you're actually moving the true clinical data around, it's always been okay to be down for a few hours. Now that you are going into an environment where the live data has to be available on an instant's notice, you have to put the things in place to ensure you are going to have that level of reliability within the network.

MORLEY: Hospitals and health systems are not in desperate need of bandwidth, storage, and computing—most have strong bones on which to build. The significant infrastructure needs are in the ambulatory space.

GIBBS: Vendors are coming out of the woodwork and going into the doctors'

offices and trying to sell them every kind of system that's out on the market.

JOSLYN: It highlights a new role for those leading IT efforts. We need to help physicians sort through all those different IT solutions. It places us in the position of being an adviser, and, in some cases, a service provider as well.

STETTHEIMER: You have to offer it to everyone if you're going to offer it. But it's critical that you align with physicians, because—I don't know about you guys—but I've never admitted a patient. Physicians are the core of our business.

HEALTHLEADERS: *You have patients now with wireless pacemakers and such; what are the demands to get that data to the physician and connecting that back to the hospital?*

Scott Joslyn
senior vice president & chief information officer
MemorialCare Health System

GIBBS: The patient is doing a lot of self-monitoring in the home through various devices. That is going to continue to grow. At some point, instead of going to the doctor's office with a kid with an ear infection, you're going to place a stethoscope in the child's ear and send a transmission to the doctor. The doctor is going to be able to electronically order the prescription, and it'll be charged to your credit card. But you have to link all those systems together.

JOSLYN: It's a data diversity issue as much as a data volume issue. The idea of a wireless hub inside the patient's home is not so miraculous anymore. But it's a diverse set of data around which there are really no standards. You can buy these various devices now, whether a diabetes monitor or heart monitor, but how does it make its way into the primary care office system? The practitioner is not interested in floods of data, so you have to learn how to distill it down.

STETTHEIMER: The necessity is more of a connection along the continuum of care. The challenge going forward is, can we, as a nation, really afford to have unconnected components of the continuum in isolation?

HEALTHLEADERS: *How ready is the vendor community for this new vision of care delivery?*

MORLEY: We haven't discussed a single issue that the technology community can't address. The principal challenge is establishing standards and executing smart, sustainable strategies. Adequate funding is equally important. The banking industry dedicates 10% to 12% of revenues on IT. The healthcare industry spends between 2% and 3%. Those numbers have to shift.

STETTHEIMER: You still have hospitals that perpetually lose money. It's the minority that are actually turning a significant profit. So if you say we expand this as a percentage of cost, that means your revenue has to somehow support that.

JOSLYN: The money moving around the healthcare delivery system is substantial and we should be able to automate much more than we're automating now. You have to get people into a medical home. They need a stop other than the ED.

MORLEY: When you compare the amount of money being spent with patient outcomes, you have to ask whether we are suboptimizing a suboptimal system. Technology will play a pivotal role in the transformation of health delivery, but it's only one part of the equation. We also need to examine workflows, duplication, communication—everything that's a speed bump on the continuum of care. Technology can help overcome those obstacles, but it needs to be implemented correctly in an environment that isn't averse to change.

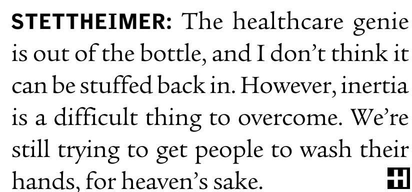
JOSLYN: We probably are not going to have the opportunity to blow it up to completely redesign it. The biggest opportunity coming along in a long time is the latest legislation on ARRA that gets the environment infused with a great deal of automation.

HEALTHLEADERS: *What should providers do now to prepare for the digital hospital of the future?*

MORLEY: Everybody has to be focused on improving the quality of care and reducing costs. IT departments may not lead the charge, but they certainly need to operationalize the charge by working closely with administrators and caregivers.

JOSLYN: We're going to have to be more risk-tolerant. Unless we have the courage, the willingness, and leadership to do that, we're not going to make much progress. The opportunity is enormous. The stage has been set. Technology is there. We have to get to a tipping point to overcome the resistance.

GIBBS: It's not just the technology; it's a cultural change that needs to take place within our organizations in order to make this happen. For many of us, it's also about ensuring that the people who are going to utilize these systems are ready for it and effectively trained.



STETTHEIMER: The healthcare genie is out of the bottle, and I don't think it can be stuffed back in. However, inertia is a difficult thing to overcome. We're still trying to get people to wash their hands, for heaven's sake.

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