Building a Business Case for Revenue Cycle IT

Many hospital financial executives are exploring investments in new revenue cycle technology to cope with such challenges as increasing complexity of payer requirements, desire to improve patient satisfaction, and management of denials and other revenue loss. In 2008, 38 percent of 171 providers surveyed by KLAS indicated plans to replace their patient accounting and revenue cycle management solutions.[1] Yet such high-dollar investments aren't easily undertaken. Timing of the transition, ROI strategy, and market environment are just a few factors that can significantly affect success. In this HFMA executive roundtable, sponsored by Siemens Medical Solutions USA, several financial executives describe how they developed their underlying business case for pursuing new revenue cycle technology and offer practical advice for others weighing similar investments.

With the level of risk associated with significant IT investments, identifying the right time to move away from a legacy system can be a challenge. How did your organization identify when it was ready to make a leap?

Greg Meyers: Our health system is made up of two major hospitals and a network of nine smaller regional hospitals, all of which had separate patient financial systems when we consolidated in the mid-90s. So, like many other healthcare systems, we had to contend with different legacy patient accounting systems. We realized we simply couldn't support all of these systems going forward and we had to find a new approach that would truly meet our needs.

Don Paulson: We had a similar situation. My organization has a flagship teaching hospital with five community hospitals. I was CFO for the first community hospital to join the teaching hospital. When our hospital was added, I embraced the idea of adopting all of the teaching hospital's systems because I wanted perfect integration. But every community hospital that joined the organization thereafter kept their legacy systems, which ultimately has led to significant problems trying to manage the revenue cycle. Now we are building a cancer center and another community hospital. Also, we have to integrate a faculty-based medical group, a primary care practice group, and a rehab long-term care hospital. The burden of having four disparate revenue cycle systems and multiple feeder systems was just getting to be too much.

John Vornbrock: Our clinical leadership chose a clinical information system and that drove our subsequent decisions about revenue cycle systems. We had managed to cut 25 days out of our accounts receivable just through improved processes. It would have been pretty easy for me to slide through a few more years without taking on a new system. But going forward, it wouldn't have been the right thing to do for the organization, particularly when considering the limitations of our existing revenue cycle system and the additional investment we would have had to make in system enhancements.

One concern is that we aren't certain of the impact we will face during the transition. No one has the staffing resources to implement a new system and keep the old one running up to snuff throughout the entire period. We're all pushed to the limit and we're all short-staffed, so this isn't going to be easy. But a few years from now, some of our more experienced staff are going to be retiring. So we decided that it's better to bite the bullet and do this before they leave.

Paulson: Staffing was also a concern for us. We had two IT people left who knew the coding for our homegrown system. It had never had a "code rewrite." As a result, sometimes things would happen like the addition of a screen for a new payer would cause a registration field to disappear. We were definitely at business risk every day we continued to use the system. It was a burning platform, and we had to move off of it quickly.

James Simone: Our IT system was being sunset. We had been using the system for 16 years and we had gotten a lot of mileage out of it, but it was time to change.

What have been some of your goals for your revenue cycle technology, and how have they factored into making a business case?

Meyers: Our chief focus is on how we can use IT to improve the patient experience on the front end as well as our bottom-line results. Specifically, our new key performance metric is reducing our cost to collect. We believe automating workflows will be a big part of addressing this challenge.

Up to this point, we have accomplished a great deal by using technology to support the back end of our processes. Automation helped us move from being an underperforming system with many different processes and inefficiencies to a pretty high-performing system. We reduced our accounts receivable days by 35 days over a three-year period and improved our financials significantly. Our business case continues to be built on the belief that technology is key to squeezing as much productivity out of existing resources as possible.

Simone: We also feel like our technology investment will take us to a new performance level. We're already using a lot of best practices in revenue cycle management. For example, our admissions representatives look up patients' credit histories online during the admissions interview for elective procedures and generate payment streams before the patient is admitted. Patients are not admitted for elective services unless they make a payment up front.

However, once the new system is implemented, we anticipate room for even more improvement. We expect we will be able to bring the accounts receivable days down three to five days, which which will increase our investment income. Also, through better data tracking and use we should be able to gain greater insight into various sources of revenue leaks—for example, having correct documentation, charging, and billing on our "observation patients" stays that we have had difficulty with in the past. In addition, all records will be scanned into the system. This change should bring some savings on storage and handling and help us gain efficiencies.

Paulson: A key goal for us is to capture flaws in the payment systems, so we can push them to work lists and build workflows around them and better understand where we're missing out on revenue that is owed to us. Part of our focus will be using technology to improve collections efforts by segmenting workflow, which will allow us to allocate the appropriate amount of resources to each collection activity. We want to reserve follow-up calls for patients who represent a real payment risk, so we can avoid bothering others and conserve scarce resources. We also want to support the growing number of people who have high-deductible health insurance plans and health savings accounts with financial communications appropriate to their circumstances. Ideally, our system should be able to send tailored follow-up messages and change workflows based on patient financial and benefits information.

We also want to be able to improve patient access by verifying eligibility and benefit information during preregistration. If you can obtain accurate and complete information from patients up front, then you minimize the likelihood for rework later in the revenue cycle and better serve patient needs.

With our disparate systems, we've had to do multiple registrations—up to five—for the same episode of care. At one point, it was so bad that we actually had split billing situations in the teaching hospital: The patient would sit down and register on the hospital side, and then stand up, move over two steps, and sit down and register again on the professional side. That was about as inconvenient for patients as one could possibly imagine.

Ultimately, investing in the revenue cycle is really about patient satisfaction. We are here to serve patients, and technology is a tool to enable our business processes to accomplish this.

Vornbrock: Customer satisfaction is important. It has played a key role in the goals for our technology as well. One of our objectives is to make our bills more integrated and transparent. The current system that bills patients separately for each element of service can be confusing for patients. Also, our new scheduling system will replace a paper-based system throughout the organization, which should improve the accuracy of billing information substantially.

In terms of the business case, ongoing operational costs will be higher with the new system. However, we are expecting to obtain many more benefits from its use. We will be able to integrate a large number of our affiliated

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entities through use of the enterprise master patient index, scheduling, and decision support. Also included will be professional billing for our 60 employed physicians—who are currently on an entirely separate system. In addition, we will be making a major effort to provide better information to clinicians to improve patient safety and quality of care.

Did any external factors contribute to making your business case for investment?

Meyers: To some extent. We are looking ahead and planning how to deal with the Medicare RAC [recovery audit contractor] program. We've talked to hospitals in the pilot project states, and we know that IT is essential to surviving RAC. So, in a way, government regulations are forcing us to adopt efficient, state-of-the-art IT.

Paulson: Given the compliance environment and the constant changes in coding today, we've recognized it's a lot easier to maintain one CDM [charge description master]. As such, one of the prime considerations we had was integrating physician and hospital billing.

Our investment will involve creating a central CDM for the system and spinning off "sub CDMs" to each entity. When APCs [ambulatory payment classification] codes started, we found that our subsystems would pass diagnoses into our hospital services bill. For the first week or two, we didn't know where they were coming from. Now, when considering new technology, we've spent a lot of time meeting with vendors to understand which data elements will pass through.

Our technology investment will allow for greater control. By using a standardized CDM methodology, embracing HIM [health information management] across the system, and having HIM and patient access report to me, we will be able to tell which elements the subsystems are feeding into the electronic medical record that will be used for our billing system. We can then determine which ones we trust and which need to be updated. In a similar way, we want to make sure coding within systems is done correctly, transcription is accumulated appropriately, and scripts are built into orders with the right nomenclature to meet the new ICD-9 and MS-DRG coding requirements.

How did you approach ROI?

Simone: It was difficult selling this huge investment to the board of directors. When looking at cost, the software for our combined clinical and revenue cycle system investments was less than 20 percent and the hardware was a bit over 20 percent. But the implementation cost was more than 50 percent of the total cost. Also, the implementation time frame was 18 months to two years.

We started our presentation to the board by talking about patient safety and the need to move to electronic medical records, and then we put together some metrics for annual savings. Working with our clinical experts, we concluded that the new system would reduce length of stay by 0.2 days, which would lead to savings of $600,000. There will be further length of stay reductions utilizing the system to minimize adverse drug events. An adverse drug event adds two days to the patient's say in the hospital. We also expect to improve our case mix index through better clinical documentation, which will translate to improved coding accuracy and more appropriate reimbursement, which would add $800,000 in reimbursement. All told, with these examples and others, we've documented about $2.7 million in annual savings. We're looking at a 10-year payback period.

Note that all of these numbers are very conservative. I wanted to sell this to the board knowing that we could beat these numbers. I feel confident that we can.

Vornbrock: We couldn't cut any more days from our accounts receivable with our current system unless we made some major technology improvements. With the new system, I'm looking for at least a 20 percent reduction in days in accounts receivable. Also, we hope our denial rates will go down because it's difficult right now to determine if a bill is clean before we send it out.

Paulson: At the time the business case was made, we had a net present value of over $5 million dollars, assuming a 12 percent interest rate. We wanted to reduce writeoffs from our local Medicare review policies, reduce denials in outpatient services that had not been authorized or certified, and cut lost charges, bad debt, and collection expense. Although it's

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hard to quantify, there is also the important value that comes from getting front-end processes right such that satisfaction improves for patients and our staff.

Meyers: One aspect that strengthened our discussions of ROI was that we were able to point to notable successes elsewhere. Three years ago, point-of-service collections in our flagship hospital were about $28,000 per month. In May, they were $540,000 per month. This was primarily accomplished by using IT to improve our ability to work with patients, predict what they owe us, and determine their ability to pay at the time of service.

What types of barriers did you encounter when pursuing the technology?

Simone: The standard seven-year depreciation schedule would have been an obstacle for us, so we got buy-in from our auditors for a 10-year depreciation schedule. With an investment of this magnitude, there's no way we're replacing it in seven years.

Another big barrier has been cost. To implement the new clinical and revenue cycle systems, we've estimated it will take $25 million. Ongoing operating costs will increase almost $1 million per year with the addition of new system maintenance cost and eight to 10 additional IT employees. There will also be numerous one-time start-up costs. We needed a new computer room, so we ended up having to add on to the hospital to house the new data center. Other expenses include cleaning our master patient index to eliminate duplicate numbers and training the staff nurses in how to use the system. All in all, such one-time start-up costs will total more than $700,000. Clearly, the magnitude of the investment was tough to face. Nevertheless, we knew that it was a smart financial decision given the risk associated with not making the change. We knew we had to make this investment.

Maintaining momentum also has been a challenge. We're a community hospital with a long decision-making process, so it was tough to get the ball rolling and push it along. The RFP process started in 2005 before I came on board, and we didn't sign the contract until 2008.

Paulson: We discovered that some of the business models we've been operating under for years would need to be changed. For example, when implementing the new electronic medical record, we found that when new patients are registered and the previous medical record can't be located within three minutes, then the patient would be given a new medical record number. Ultimately, these records are merged and Health Information Services discovers that the patient really has received services from us before. We realized that this merge needs to occur in real-time, not on a batch basis at the end of the day or the following morning.

Also, you could say that our ideas about what we wanted in a revenue cycle system were a barrier. Originally, I wanted a setup that featured embedded work listing, where mistakes from the previous day would have to be corrected the next morning before anyone could start work. The problem is that we got what we asked for. When we brought up our first hospitals, we suddenly discovered we had voluminous work lists the very next day. We had to figure out how to prevent that from happening over and over again. The embedded analytics in the new system allow us to pinpoint where defects are occurring in the process, so we can cure them in advance.

Meyers: Our chief barrier has been overcoming a troubled history with clinical information system implementations. We had installed a clinical system several years ago that turned out to be suboptimal and had to be reinstalled twice. The single biggest reason it failed was that we didn't have clinical support. We should have spent much more time asking the clinicians whether the system met their needs and looking into how it would change their work processes and workflows. This time, we can't underestimate the importance of gaining user buy-in.

Endnotes

[1] *Revenue Cycle Reformation: Will Software Solutions Keep Up?*, KLAS Enterprise, LLC, April 2008.

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