Hospital Operations Management
Improving Organizational Efficiency

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Reducing operational inefficiencies represents one of largest sources of potential savings in hospitals today. Patients wait to be admitted. Doctors wait for test results. Patients wait for treatment. Rooms wait to be cleaned. Every hour spent waiting represents an expense to the hospital that in aggregate costs the health care system billions of dollars each year.

Health Forum convened a panel of hospital executives and industry experts May 15 in Chicago to discuss the challenges and opportunities associated with no-wait states where enterprise technology, operational analytics, scheduling, safety and other key areas converge to deliver greater operational efficiency and cost savings, and support improvements to patient and staff satisfaction. Health Forum would like to thank all of the participants for the open and candid discussion, as well as GE Healthcare for sponsoring this event.
MODERATOR (Bill Santamour, Health Forum): Our topic today is hospital operations management. Just so we’re all on the same page, what does that mean to you?

BARRY GRAF (Virtua Health): It probably would be described best as the day-to-day functions of keeping an organization running. So, it’s the soup to nuts of taking care of patients. That’s how I describe it.

WILLIAM LOVEJOY (University of Michigan): It’s also about creating value. And how you do it makes all the difference. Walmart and Kmart have essentially the same strategies, but their execution is entirely different. It really matters how you organize internally for flow and operations. We often think of it as day-to-day operations because we’re so rooted in that in our daily lives. But the decision to build a hospital, make a capital investment and long-term strategic plan are also part of operations management.

FRANCIS DIRKSMIEIER (GE Healthcare): Hospital operations management is an emerging category. The field has spent a great deal of time on the electronic health record. Now, organizations are truly beginning to focus on managing the business differently from an operational standpoint. That includes such things as patient flow, capacity, throughput and utilization. It also includes looking at the ability to harness data in a different way.

Given the cost of health care today and the fact that it accounts for about 18 percent of the gross domestic product, there is greater focus and energy to manage the business from an operational standpoint.

KAREN MYERS, R.N. (St. Luke’s Episcopal Health): It is driving the way to do business differently in a hospital setting because it’s not just about day-to-day activities. It’s about length of stay, among other things, and understanding patient throughput. But it goes further than just looking at length of stay. It tells us what’s going on throughout the day for the patient. For example, the data may tell us that it takes 62 minutes to get a patient from Point A to Point B. We can then take a deep look at our processes and make improvements. That’s important. The transformation is just beginning within the hospital setting to make us truly efficient.

MODERATOR: Does that differ from what hospitals have been doing in the past? Is there a new focus on the management part of it?

GRAF: I think hospital operations probably have been functioning that way for a long time. The sense I have is there’s probably a greater partnership in recent years out of necessity between hospital operations and the patient care folks due in part to health reform. The lines between these groups have begun to blur. From the overall hospital operation side, it’s how everyone can work together best for the patient.

MODERATOR: And what would you say are the biggest challenges to that at this point? What barriers must hospitals and health systems overcome to improve efficiencies?

MYERS: The biggest challenges are changing practices, cultures and processes that have been in place for a long time. We’ve never had to move our patients this fast. We’ve never had to discharge them before 11 a.m. Patients are not going to be ready by then. In our organization,
The biggest challenges are changing practices, cultures and processes that have been in place for a long time.

Karen Myers, R.N.

one of the things we’re focusing on is moving patients from the intensive care unit as soon as beds are ready for them. We have more than 120 ICU beds; we’re an 850-bed hospital. We have to free up the ICU beds as soon as possible to keep things moving. So far, we’ve gotten the transfer time down to less than 60 minutes. That involved a number of people throughout the organization, including front-line staff, unit secretaries and transport. We went from, ‘We can’t do that,’ to ‘How do we make it happen?’ It drives the conversation in a different direction. We were able to do it because we had the metrics available to show them what was happening. And we hold them accountable: it’s part of the performance review process. The bottom line is that we have to be more efficient so patients will have access to our facility.

PAUL MILTON (Ellis Medicine): We could never move our patients in the way Karen mentioned unless we have the data. We have a more data-driven mindset now. We are really striving for consistency in our practices and that’s a challenge. We’ve just gone through a merger of hospitals and we have 19 operating rooms in three different locations. We are striving for greater consistency in utilization, in asset management, for example.

Now consider length of stay. Say our average length of stay is 5.4 days. I know that a tenth of a day is worth four beds. If I can drive the length of stay down to 5.0 days, I’ve freed up 16 beds. All of the stuff that goes on during the day—tests, transport, therapy—that all contributes to patient flow and our ability to reduce length of stay. So we need to focus on maximizing all of our resources.

Technology has changed things a bit. Some of us are here today because of our technology use. Things have changed just in the last several years. We have more data to help us drive efficiencies, whether it’s on the labor side, the equipment side or supply side. That can help to reduce certain costs and lead to better resource utilization and help us turn beds faster. The availability of data has been a game changer in my career.

DIRKSMEIER: The term ‘data,’ to me, is evolving. It provides three levels of information: hindsight, insight and foresight. What just happened? What does it mean? And what am I supposed to do about it now because it did just happen? What's actually about to happen right now? For example, how does transportation of a patient actually help to fill voids in diagnostic imaging and not create bottlenecks? And if there is a bottleneck, can I look at rerouting in a different manner instead of having things be linear? We can view things in different ways because of the data. And we continue to find new ways to use data to drive improvement.

MYERS: For the longest time, we operated off of what I refer to as qualitative data: what area received the most complaints in terms of wait times, for example. Now we have quantitative data that really show us what’s happening. It really helps us to drive change.

GRAF: There is no way that health care, as it’s designed today, can continue to function. We have to experiment. Not only does it have to be safer and faster, it has to feel different for the patient. Reimbursement is being tied to all those things. Technology is going to play a big role in the transformation of care. We have to be conscious about where we deploy technology. What are we looking for in the data and how can we use this information to create positive change?

KAREN BIBBO (Aventura Hospital and Medical Center): It’s extremely important to know what’s going on within our organizations at any given moment. You can identify bottlenecks and respond in a timely manner. In my organization, we get lots of data but it’s often 24 hours after the fact. Our patient-tracking system provides real-time data and I can effect change whenever the data reveal any problems. That allows us to improve our throughput.

LOVEJOY: Why would people change their behavior just because the data are there? Why does it make a difference? Nurses have long been hoarding equipment. How does data help to stop that practice?

MYERS: It’s the natural behavior of the nurses to hoard equipment, because we want to be able to assist patients in a timely manner. As we try to become more efficient, we want to make sure that all clinicians have ready access to the tools they need to get their jobs done. Data provide transparency. We’ve been tracking where to locate infusion pumps through use of PAR levels. Each unit has between two and four pumps,
depending on utilization. Again, data helped to drive the PAR levels. Nurses now know when the pumps are available to them, so they don’t need to hoard them. So, did credibility need to be established in the new process? Absolutely. To change their behavior, I needed to demonstrate to them that they would have access to what they needed.

**BIBBO**: Change does take time. Asset management is a big cultural change, too. When we implemented our asset-tracking system, it took a long time to build trust with our nurses. But once we did, we saved hundreds of thousands of dollars in IV rentals. It was incredible. We found IV pumps in the back of patient rooms, in closets and in corners. Once we were able to get all of them in one place and dispatched as needed, we did not need as many. But, again, the system has to work. If the system fails, they will go back to hoarding. Leadership must ensure the processes work or you will never move ahead.

**MILTON**: It’s a bit like the consumer-supplier relationship in retail. The organization is the supplier and the nurse is the customer. The supplier needs to make sure that IV pump is going to be available when and where the system says it is.

It took us between six and nine months to build a confidence level among nurses to change their behavior. And that’s when we really started to see savings. And the savings basically paid for the investment of the RFID technology.

**BIBBO**: When we purchased new IV pumps, we were able to purchase 10 percent fewer than we normally would have.

**MODERATOR**: When you talk about leadership, who owns this in the organization? Who initiates it? Who is responsible for it?

**BIBBO**: Each hospital has a point person who’s going to manage the new product or process. So it’s dependent on how the hospital organizes the rollout of a new initiative. In my hospital, the chief nursing officer and the chief operating officer rolled out the asset tracking. The CNO and I oversaw the rollout of the patient tracking system.

**DIRKSMIEIER**: The only reason why any of this stuff works is executive sponsorship. I can
point to examples where there isn’t executive sponsorship and it’s owned by everybody and nobody. In those examples, the system doesn’t work.

As I travel around to different organizations, even in this global role, there’s a huge difference between executive sponsorship and embracing change. Leadership needs to embrace change. The strategy of hope doesn’t really work. Change of this magnitude will not succeed without leadership endorsement.

MILTON: That’s a good point. There’s always going to be resistance to change. People are used to doing things a certain way. And there are concerns about handing over some responsibilities to other people. But I’ve noticed that once the executive team is involved, we get more buy-in up front. Leadership needs to get out there and explain why change is necessary and how everyone will benefit, as well as make everyone confident that their jobs are secure. By improving efficiency and cutting cost, we are protecting jobs.

MODERATOR: How did you go about that?

MILTON: We started with a small team. We brought them in early in the discussion. They shared our plans and goals with their colleagues. They helped build confidence among their peers.

GRAF: These folks got into health care because they wanted to provide care. They don’t want to spend their time looking for things that they need and having to hide things. Technology should make it more efficient for them to spend more time with patients — that’s why most people go into health care.

MYERS: Executive leaders not only need to champion the transformation, they need to be visible to the front-line and other staff whose roles are changing. In many cases, we are changing the work habits of clinicians who have been in their roles for 10, 15 and 20 years. Senior leaders need to get out and talk to those involved to understand the depth of change and then build their confidence by being accountable for the results. Another key to success is to seek continual feedback. You have to stay on top of it to make sure things continue to work as they should. It’s all about establishing sustained governance of these new processes.

MILTON: That’s a good point. There’s always going to be resistance to change. People are used to doing things a certain way. And there are concerns about handing over some responsibilities to other people. But I’ve noticed that once the executive team is involved, we get more buy-in up front. Leadership needs to get out there and explain why change is necessary and how everyone will benefit, as well as make everyone confident that their jobs are secure. By improving efficiency and cutting cost, we are protecting jobs.

MODERATOR: Is there a quality element to hospital operations management? Can you provide examples as to how it’s improved quality?

MYERS: Absolutely. Our focus is always on quality and these initiatives will help us get there.

MILTON: We’re getting better at using the data now available to us. Among the things that we track is door-to-doc time in the emergency department. We have these patient flow meetings three days a week to review our data and we try to do some predictive modeling. It’s not very sophisticated, but we do have a better idea of what our ED volume will be. That’s one way that we can impact quality.

Our world is changing significantly. Health care is no longer hospital-centric. There’s a huge opportunity for improvement inside the hospital. But there’s an even greater opportunity throughout the continuum of care. If we can truly achieve the right care at the right time in the right setting, quality will go up significantly and costs will come down.

There are utilization data beyond our walls. Think about health information exchanges. We need to apply all of the information across the continuum of care so that all clinicians have access to detailed patient information. When did Paul Milton have his CT scan? And applying that big chunk of data into our operations systems is going to be key.

DIRKSMIEIER: One of the biggest complaints organizations hear from patients is about wait times. They had to wait for a test, wait for the test results, wait to see a physician. Everybody’s always waiting for something. By reducing wait states in hospitals, organizations can improve patient satisfaction. Waiting is a safety issue. It’s a quality of care issue. It leads to inefficiencies and increased costs. If we cut down on wait states in health care systematically, we can solve this problem.
MYERS: All of us have waiting rooms in our hospitals. We have prepared well for waits. But we too often have overlooked the quality component. As Paul said, it’s about getting the right patient in the right place at the right time. Health care is very specialized. You can’t just place a patient anywhere; we have to get him to the right level of care in the right hands of specialized caregivers.

BIBBO: We’ve been able to reduce the wait times significantly in the emergency department to get patients up to their beds faster. Our biggest challenge is waiting for specialty care. At our hospital, that happens to be our step-down unit.

GRAF: Hospitals are inherently unsafe places due to the complexity of the processes that exist. So, to the extent that you can minimize wait times at any stage in care and make sure that that care is provided in the right place, you will improve quality. You want to get the patient to the right level of care and do the right thing the right way, but as quickly as possible.

DIRKSMIEIER: I think we are seeing the advent of a new role in hospitals today. If I were a naval command officer, I’d have access to a sophisticated navigation system and the ship’s control system all within view. That’s what hospitals need to achieve. They need someone who can view what’s going on within the organization and guide the ship. That’s a different type of operational role. It needs to be a centralized position so the decisions don’t have to be made by every single department. The goal isn’t to take authority away from the departments but to provide a patient-centric view of what’s going on within the organization.

BIBBO: That’s interesting. It’s similar to air traffic control. It’s patient traffic control. Whatever the needs are is what this patient traffic control system would map out for the patient in advance so that the treatment of the patient can flow smoothly.

DIRKSMIEIER: That’s right. It doesn’t mean that every decision is made centrally or needs to be made centrally. It means that there is responsibility across the organization. The information comes from the command center, but it is targeted to a specific unit or floor. It contributes to the overall, greater good.

LOVEJOY: The conversation has shifted from the use of data to understand what’s going on within the organization to the use of data to control what’s going on within the organization. I am a huge fan of data for understanding and analysis. I’m more anxious about the use of data to control situations.

There are certain types of procedures that are done again and again, such as admissions and blood draws. These are things that can mostly be routinized. They can be controlled. But then, there are other things that you cannot control. Hospitals need to feed information to the people on the ground and let them deal with it the best way they know how. So, hospitals and health systems need to be cautious about how they proceed. You can over-bureaucratize very easily.

MYERS: It’s important that people on the front line have direct access to our data. Our front-line managers have access to our dashboard. It doesn’t work if I’m feeding select data to them. The front-line caregivers are the ones who make things happen.

Our managers have been getting together weekly to review our dashboard and providing feedback. Do the data assist them in their practice? Does it help them make change? Are the data value-added? And if not, what else do you think you need to make changes within your practice environment?

GRAF: The question of how to use technology and data to change behaviors to reduce wait time is an age-old question in hospital operations. We’ve tried to do everything we can to provide visual cues to our units showing what’s going on in the ED. So the question is: How do you give them a visual cue that will change behavior and impact throughput rate? That’s what we are trying to accomplish. We want to make information readily available to all of our units to raise awareness and allow them to respond appropriately.

MYERS: It can’t be done in silos. In the past, we have taken a departmental approach. We focused on radiology, for example. But this approach won’t achieve what we’re trying to achieve. And it may create problems in other areas of the hospital. We’re working together differently than we did in the past and it’s much more effective.
MODERATOR: How do you achieve that interdepartmental connection?

MYERS: It goes back, again, to the executive leadership. The leaders within the organization need to help the departments make that connection, to help everyone understand each other’s role. The organization needs to function as a whole to achieve our desired outcomes and provide a positive patient experience.

MILTON: One of our challenges remains with discharge times because we have little control over where the patient is going. Whether it’s home or to another facility, there are outstanding factors we cannot control. To get patients moving through their overall treatment plan is a cumbersome process. And moving on to the next level of care is difficult. In some ways, the inpatient room is a waiting room until the next level of care opens up.

BIBBO: You’re absolutely correct. And we have data to back what you are saying. The majority of our delayed discharges are associated with rehab centers and skilled nursing facilities. Discharges to home happen much quicker, usually two to three hours quicker. To get around that, we’ve created a discharge lounge, so instead of having the patient wait in the room, they wait in the lounge. It helps to move patients off the floors and ultimately out of the ED. To further increase throughput, we provide all of the discharge instructions in the lounge. We’ve found that families usually pick up their loved one within 30 minutes of being placed in the lounge; whereas, when we left them in the room, the wait was anywhere from three to four hours.

LOVEJOY: Do you have registered nurses who do the discharge?

BIBBO: Yes. The RNs do the actual patient discharge instructions and follow-up. They call the families to let them know the patient is there. And the families don’t have to park and come in to pick up their loved one. They just pull up to the front and we wheel them out.

MILTON: That’s interesting. We don’t do that, but it’s a good idea.

MYERS: Our dashboard shows every unit. Every week, the nurse managers know who’s moving patients the fastest and getting them into beds. It’s transparent. We don’t hide anything from anyone. We’re trying to develop a pull mentality rather than a push mentality. We want nurses in our units to recognize the patient in the ED and work to get that patient onto the unit. It’s a work in progress, but we will get there.

Another thing that’s important is staffing. We need to integrate staffing into the process. An empty bed isn’t any good if you don’t have a nurse assigned to it. And hopefully we will reach that level of predictive modeling so that

Key Findings

Access to real-time, actionable data is critical. Transparency of data will secure clinician buy-in and instill a healthy level of competitiveness within the organization.

The discharge process remains an ongoing challenge as organizations work to streamline operations. Organizations will need new and better ways to work with community organizations and families to improve the discharge process.

Hospital operations management requires significant cultural change as it impacts workflow and asset management, among other things. Clinicians must no longer operate in silos, but truly work together to maximize efficiencies and optimize length of stay.
we will know when a bed will become available and we will have the appropriate staff onhand.

DIRKSMIEIER: That’s yet another link to quality and safety.

MODERATOR: How prevalent is hospitals operations management? And how well is the hospital field as a whole faring when it comes to hospital operations management?

MILTON: I think we still have a way to go. It’s such a work in progress and the industry is changing at such a fast pace. At my organization, I feel as though we are on our toes trying to stay with it.

MYERS: Honestly, we don’t know what we don’t know within our own organizations. There are so many moving parts. I’m not sure whether any of us here today know all of the inner workings and complexities within our organizations. It’s complicated.

LOVEJOY: Organizations are gaining awareness of hospital operations management because of the cost pressures hospitals are facing. Every CEO knows the relationship between length of stay and the hospital finances, but it’s a fundamentally hard environment. You can’t have a highly variable environment through restricted resources and guarantee short waits. It’s impossible. Queuing time goes up as utilization goes up, and high variability.

In a typical business environment, you can truncate an unprofitable product line. But you can’t just turn people away from your ED. Hospitals and health systems are aware of the issues; they are wrestling with the best way to address them.

MYERS: We’re in the business of taking care of people, so we have the added complexity of the human factors that each one of us brings to the table, let alone the variability.

BIBBO: Until now, everyone has been managing his or her own piece of the health care pie. However, with the reimbursement changes, we will all be pooled together. And we don’t have direct knowledge or oversight into the operations of all of these different entities.

MODERATOR: But will you in the future?

LOVEJOY: I think it’s absolutely coming in the future because of the economic and strategic pressures at play.

MILTON: We are using a customer relationship management system to coordinate with other providers and support organizations within our community. When a patient is discharged from the hospital, other organizations access this system and update what’s going on with the patient. It helps to manage chronic care patients.

All of these entities have case managers and there is overlap. We can probably cut back on the number of case managers and operate more efficiently. But, again, we are using a technology that applies to other industries. It enables us to see exactly what is going on with the patient. It’s transparent.

GRAF: That’s interesting. It brings up the question of how you use that information to impact people at the point of care and change behavior. Is the information best captured and utilized at the local level to exact change? Or is it best for the information to be kept centrally and parcelled down? It makes sense to have someone with a global view. But do folks on a unit or in the community want to get a call from the central body in regard to wait times and efficiencies? That’s something that we will need to work out.

BIBBO: The front-line caregivers often get caught up taking care of the patient or talking to family members, for example. They often don’t have time to see the big picture. That’s where you need a command center — to alert them that things are backing up, so that they can call for additional help.

As we put in our patient tracking system, we informed everyone that it is a big cultural change. Our clinicians know enough about the health care field to know that changes are necessary. They know we need to do things differently. The command center is a great concept and it should extend beyond the hospital walls if we are going to address readmissions, for example.

GRAF: This is what’s driving the evolution of integrated delivery systems, right? Organizations need to have that control, either direct control, or through partnerships.
**Executive Dialogue**

**MILTON:** We will be able to standardize many processes through use of data, particularly for cases that are fairly routine. But that won’t be the case in every situation. The people on the ground must be able to say whether a patient falls outside of the range and requires a different course of treatment. The data will empower them to take the necessary action. There are many things that we could do a better job of standardizing and achieving good outcomes at a reasonable cost. That would enable us to take our other limited resources and apply them to the more complex cases.

**LOVEJOY:** I agree completely. But there’s a long way to go, and physicians resist standardization, in general. A lot more can be standardized than is now typically done in hospitals.

**MYERS:** We can apply more resources to our chronically ill patients, particularly in terms of education. We don’t do a good job with that now. Having a more informed patient population will improve our outcomes.

**MILTON:** It’s not about marketing and other stuff. It is all about how you operate, how you execute.

**MUSICIAN:** Is there a board component to the whole hospital operations management idea?

**MYERS:** Absolutely. Ours is very engaged. When you go down this path, it’s an investment for the entire organization.

**BIBBO:** Even having all of the data available, we’re going to need patient navigators to keep patients on track. We’re going to have too much data unless we hire someone to manage that patient’s data. So, when they go to a rehab center or a skilled nursing facility, somebody’s got to manage all of that information.

**MILTON:** Right. We use navigators to manage patients who have a history of at least 12 ED visits in a year. We have 10 navigators working with about 200 patients. They go to the patient’s home; they assist with getting medications. It’s the only way to truly impact their behavior. These are patients who don’t follow up post-discharge. They don’t follow up with their primary care physician. It’s a whole different level of operations management. It’s just outside of our four walls.

**GRAF:** There’s a whole cottage industry of companies that are springing up to provide these services for hospitals.

**BIBBO:** That’s very interesting. What other industry requires different businesses to meld together for the purpose of serving the customer, in this case, a patient? We’re in such a predicament here where we are literally responsible for those patients who either refuse or are unable to follow up with their care. There’s no other industry that requires all these businesses to come together.

**MYERS:** In the hospital business, we’re reactive instead of being proactive in managing people before they develop chronic conditions. We need to change the approach to care. How do we take care of patients before they get to the hospital? We need an engaged, knowledgeable consumer.

**MILTON:** We’ll get paid to keep people well. There are many talented people in health care. That’s the amazing thing. I’m an optimist. And when these talented people get challenged to keep people well, things will change fast for the good. The quicker it moves, in my mind, the better we’ll all be. It won’t be easy, but it will happen.

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Our clinicians know enough about the health care field to know that changes are necessary.

Karen Bibbo
LOVEJOY: I want to get back to something that was discussed earlier. How do you effect a cultural change, or what’s necessary so that improvements are sustainable?

MYERS: It has to be hardwired into the system. We have to have constant communication, so the dashboard doesn’t go away. It needs to be embedded into the organization and the culture so that when people leave the organization, it won’t get lost. There has to be continuous feedback of the dashboard every week. It needs to be reported to the board. If it’s something that’s that important, it has to have visibility.

LOVEJOY: So, it’s accountability and value, right? Accountability is what you were describing: the data, the information has to be out there. But the value proposition is one that can never be underestimated in any of these projects because if it’s not valuable to the end user, it doesn’t create value. We talked earlier about the hoarding of pumps. If organizations can create technology or workflow processes that make it easier for a person to do his or her job, clinicians inherently will want to do it that way. And those changes will stick.

DIRKSMIEIER: I can give a real-world example. Washing hands is incredibly important, yet many people don’t do it. We’ve developed this system to monitor hand hygiene. We stressed the need to not interrupt existing workflows. If clinicians wash their hands, they get credit. If they don’t, they won’t. We found that people wash their hands about 50 percent of the time. When people know they are being tracked, the number goes up. The CEO of the hospital started a contest to see who had the highest number. The number of people who wash their hands went from 50 to 80 percent and it hasn’t gone below that level since. They use the information as a coaching tool. They know individual-level and department-level compliance levels.

The CEO has really taken a personal interest in hand washing and keeps the data visible in his office. Once he got behind it and deemed it as a coaching opportunity, the rest of the organization followed. The percentage is in the 90s today. So, that’s an example of sharing important data, understanding why and then positioning it in a way that gets people to take action.

MILTON: What’s the reward?

DIRKSMIEIER: It was really something simple, like movie tickets.

BIBBO: Transparency of data creates a competitive environment, because everyone wants to be the best.

MYERS: If the CEO left, would there still be the culture and focus on hand hygiene? If you bring in the patient to the equation, it will help to sustain it. And by that, I mean sharing the patient experience. What would a bloodstream infection mean for the patient? The patient may not survive. It may lead to an additional 10 days in the hospital and poorer outcomes. We do incredible, heroic things to get people through prognoses that are not so great. It would be a shame to have something happen because we didn’t practice one of the basic fundamentals of care — like not washing our hands.

MILTON: The accountability will keep it in check a little bit, but the value piece will sustain it.
Thanks

Health Forum would like to thank the panelists for taking part in “Hospital Operations Management: Improving Organizational Efficiency,” with special thanks to our sponsor: GE Healthcare.