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**RELIAS
MEDIA**

Pre-Op Kits Improve Health, Reduce HAIs and Readmissions

Overall costs are down, while patient satisfaction scores have increased

Indiana University (IU) Health is reducing hospital stays by providing patients with a bag of items before surgery that help them “tune up” their health and position them better to ward off hospital-acquired infections (HAIs).

The pre-op wellness kits address a perennial challenge when providing high-quality healthcare, says **William Wooden**, MD, FACS, the James E. Bennett professor of plastic surgery and director of hospital operative services at IU Health. By improving the preoperative health of a patient, hospitals can shorten length of stay (LOS) and lower the rate of HAIs, which in turn refines outcomes and lowers costs, he says.

“We have discovered that prerehabilitation, especially when you’re coming for specialty care, can make a dramatic amount of difference. We recognize the power and importance

of population health and preventive care with primary care physicians. But when someone becomes ill and needs surgery, we have to dig deeper into that patient’s healthcare status and identify things that have been unidentified,”

Wooden says. “Now that

the patient has the stress of surgery coming up, what are the things we can do to improve their outcome? We normally think of rehabilitation after the fact, but we thought there was an opportunity to address these problems before the surgical intervention.”

“WE HAVE DISCOVERED THAT PREHABILITATION ... CAN MAKE A DRAMATIC AMOUNT OF DIFFERENCE.”

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Wooden and colleagues studied the common risk factors affecting a patient's outcome throughout a hospital stay. They identified about 75% of patients coming to IU Health arrived with three or more risk factors for a complication during hospitalization. Historically, clinical teams would try to ensure patients were taking their medications before surgery but did not do much proactively to optimize the patient's condition before surgery, Wooden says.

"We recognized that if we actively worked to improve their pulmonary function and their physical function, actively worked to get them off tobacco, actively worked to improve their nutrition and hydration, we could drive outcomes and reduce complications," Wooden explains. "We linked it closely to our pre-anesthetic testing center where patients go to get an ECG and lab work before surgery."

IU Health developed a program that identifies a patient's individual risk factors and ways to optimize the patient's health before surgery — in days, not weeks or months. That led to the creation of the Pre-Operative Wellness, Enhanced Rapid Recovery (POWERR) program, known as the Red Bag program, in 2015.

Patients at the pre-anesthetic testing center received a red roller bag that includes a five-day supply of an immunonutrition drink with vitamins and nutrients that can bolster the immune system and improve healing. The kit includes two doses of a preoperative bathing solution, soap that can help prevent MRSA and other infections, topical mupirocin for the nostrils, an incentive spirometer to help strengthen the lungs, educational materials about smoking cessation,

and an instruction sheet on how to use the contents of the bag.

Improved Nutrition Before Surgery

The IU Health team explains to patients that using the items in the bag can significantly reduce infections and other complications from surgery. The Red Bag support can shorten hospital stays by an average of two days and reduce re-admission by half.

Patients usually start consuming the nutrition drink five days before surgery and continue it for five days after, Wooden explains. The instructions urge patients to consume sports drinks until three hours before the surgery.

That recommendation contradicts the standard instruction for surgical patients to avoid any liquids in the hours before the procedure, but Wooden says research has shown patients perform better when they consume liquid calories instead of going to surgery dehydrated and with no nutrition.

"We were amazed at how far we have gotten with this program," Wooden says. "We were able to address major surgical site infections — CAUTIs, CLABSI, *C. difficile* — and length of stay, with dramatic reductions — about 60% across the board."¹

About half of IU Health physicians have adopted the program, and IU Health has provided the bags to more than 70,000 patients. Between 60% and 70% of patients report using the items before surgery.

LOS was shorter, with excess patient days down by 91%. The Red Bag program also reduced the direct costs per case, with costs for major

surgical cases such as cardiovascular surgery decreasing about \$5,500 per case. For minor procedures and those that already were streamlined for cost effectiveness, like a total joint replacement, the program still reduced costs by about \$1,300 to \$1,500 per case.

A report on a cohort of 12,396 patients using the Red Bag program showed dramatic reductions in HAIs. Compliance with each element was high, with researchers reporting 80% for mupirocin, 72% for immunonutrition, 71% for chlorhexidine bath, and 67% for spirometer.¹

Dramatic Effect on Outcomes

Wooden says the IU Health team is convinced pre-op wellness kits should become standard for all surgery patients. “This has been a dramatic revelation to us that collaboration between administration and providers can be so effective, especially when you focus it in a prehabilitation format like we did with the red bags,” he says. “This has been revolutionary for us at IU Health, and we hope it can work across the healthcare system at the national level.”

Patient feedback has been entirely positive, Wooden says. Some patients

who underwent surgery before the Red Bag program and then again after the program’s implementation said they would not undergo another procedure without access to such tools. Implementing the Red Bag program began with the IU Health team convincing themselves the

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program was worthwhile. They relied on research showing the benefits of immunonutrition and other components, but it still was a leap of faith.

“No one else was doing it, so we didn’t have anyone else to look at and evaluate their outcomes,” he says. “We did some initial pilot work, and the timing was right culturally at IU Health. We had adopted Lean transformation and Six

Sigma only a few years earlier. We were actively challenging ourselves to look at things more clearly and more rationally, with data-driven decision-making and pulling the right groups of people together.”

The IU Health team realized that although they were operating according to national guidelines and best practices, they were not making enough headway in quality improvement, Wooden says. Leaders started looking at the risk factors for infections, readmissions, and longer LOS.

“With something like a knee replacement, I can take weeks or months to optimize my health and address my diet, my diabetes, my pulmonary condition before I go for surgery,” Wooden says. “But if someone has cancer, we can’t wait that long. We needed a process we could execute quickly, and this is one we can do in about six days.”

Nutrition a Key Component

Immunonutrition is a key component of the Red Bag program. Wooden says the IU Health team decided to use a specific product that has produced positive effects on the immune system in other trials. To test the effectiveness, IU Health provided the product to one

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of its sickest patient populations: those underdoing liver and pancreas resections.

Before this study, those patients' LOS was about 20 days and their readmission rate was about 20%, both well within national norms. After five days of immunonutrition, both the LOS and readmission rates were cut in half, Wooden reports.

"That was an 'oh wow' moment, showing us that this is real. A lot of people don't believe immunonutrition is real, but if you have the right product it is absolutely valid and helpful to patients," Wooden says. "If you recognize that nutrition is a key element of health, driving that nutrition component becomes a cornerstone of getting people through any surgery or hospitalization in a better way."

A 2019 report revealed preoperative immunonutrition "exhibited favorable effects on the complication rate and consequently reduced the length of hospital stay"

for patients undergoing salvage surgery for recurrent head and neck squamous cell carcinoma. Those patients are at high risk of complications due to the adverse effects of radiotherapy on wound healing, the authors wrote.²

The percentage of patients suffering any complications was significantly lower in the group receiving immunonutrition (35% vs. 58% in the control group).

Wooden notes IU Health occasionally sees patients with scurvy, a disease brought on by nutritional deficiency but generally thought to be a thing of the past.

"Many of our patients have very poor diets, and some have health problems that prevent them from absorbing micronutrients. They will present with scurvy, beriberi, or pellagra," he says. "These diseases can go undiagnosed because physicians think they are dead diseases, but they are here with us, and they have a serious detrimental effect on

patient outcomes. We are changing our education to teach physicians and nurses about the importance of recognizing these diseases and optimizing those patients so they can have better outcomes." ■

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Tips for Introducing a New Data System With the Fewest Problems

A worthy change, but leaders must be prepared for a cascade of unintended consequences, including possible staff burnout, turnover

Implementing a new data system for quality improvement or patient safety, such as an incident reporting system, can come with a wide range of challenges and potential pitfalls.

Missteps along the way can delay the rollout or undermine the performance of an expensive and critical tool.

Any data system can affect a wide range of hospital operations, interacting with and possibly hindering the operation of other systems, as well as clinical

and business operations. Those far-reaching effects can be underestimated, giving hospital leaders a false sense of the scope of the project they are undertaking.

Successful implementation begins with hospital leaders identifying an accurate perspective on the work ahead, says **Michael Rudomin**, vice president of supply chain operations for Vizient, a company based in Irving, TX, that offers healthcare performance improvement assistance.

That includes a realistic view of how big the project will be and how long it will take, he says.

"Every implementation I've been involved with ended up being longer and more complicated than anyone had planned. That has a lot of implications in a hospital on everything you do, on the clinical and business sides," Rudomin says. "In one hospital I just recently worked with, the CFO knew that because of all the different processes we were about to implement, even at

the very end we would still need to produce patient bills to send to the insurance companies. Patient bills, of course, are the end product of hundreds of transactions that occur upstream ... and those processes had been interrupted by some bumps in the road we encountered with introducing the new system.”

One System Affects Others

In anticipation of that interruption in billing, the CFO planned to have an additional three to four months of cash on hand at the end of implementation.

Those funds were intended to help cover the shortfall in income while the billing system caught up with the delays induced by the system introduction, Rudomin says. But it still was not enough.

That hospital’s experience involved billing and revenue, but Rudomin says the same sort of cascading problem can occur with quality and safety data, resulting in lags and inability to extract information needed for compliance reports and ongoing quality initiatives.

“The initial estimate of how they would handle that period of missing data was made in good faith, but their problem was based on the assumption that everything would

go reasonably well,” Rudomin says. “We tested this system six ways from Sunday and thought we had identified everything that might possibly be a problem,” he continues. “Yet when it was time to flip the switch ... certain things didn’t work. No one could identify why they

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weren’t working because they were working 10 minutes ago in the test environment.”

Command Center Responds

Fortunately, the hospital had set up a 24/7 command center to respond to problems once the system went live. The command center included representatives from the vendor, consultants, hospital administrators, and clinicians. For

the first three weeks after going live, command center team members met three times a day on all three shifts to look for problems and respond to any complaints.

When the bar code scanners for the “4 East” section stopped working, no one could scan patients’ identification bracelets; thus, patients could not receive their meds.

Leaders in the command center talked staff through the situation, going immediately to Plan B for manual identification.

There still was a delay in providing medication, but without the command center’s ready response, it could have been much longer, Rudomin explains.

He notes the same command center concept can be used on a large scale, or on a small scale for system implementations that involve only one department.

No matter what is planned for a data system, it is critical to anticipate other problems arising. Leaders must be prepared for these issues, including the stress it puts on everyone to set up the system properly so they can do their jobs.

“It’s really quite a heavy lift. I don’t think I’ve ever worked with a hospital that went into it understanding that fully,” Rudomin observes. “Everyone talks to their colleagues and hears the war stories of what has happened somewhere else, and you incorporate that into

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your plan. But, inevitably, something will come up ... that throw a monkey wrench into your plans.”

Define Quality Improvement

New data systems may be implemented with the goal of improving quality of care. However, Rudomin says it is important to define exactly what that means. An ambiguous goal of improved quality may help obtain funding and approval for the new system. Still, in practice, the implementation must consider what that means specifically.

“You’ve implemented a new system, and now you have the ability to produce a lot more information, more quickly and organized in a way that is more useful than before,” Rudomin says. “But you’re only dealing with that side of the ledger. The other side of the ledger is the human side.”

If the people involved with the data system have been providing improper care or inputting data incorrectly, the new system has just provided them a faster, more elegant way to do the wrong thing, Rudomin explains.

Addressing the human side of the equation, through a review of the care processes that generate the data, should be a component of any quality improvement-driven data system implementation, he says.

Quality leaders also must remember that the introduction of any data system will standardize how some processes are handled. This can upset operations because many will have to switch from their old processes, which may have involved workarounds that made sense to them, to the new method. The hospital will have the power to

require that behavioral change with staff who are employed or primarily work at that facility, Rudomin notes.

But the change in process can be particularly challenging for nonemployed healthcare providers who work at multiple sites. “At some point, physicians may decide that to be effective in seeing their patients, they are going to do it how they want to do it,” Rudomin warns. “You have to pay equal attention to who is interacting with the system, and how well or poorly they interacted with it before. If they interacted with it poorly before, it’s

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unlikely that will improve with a new system unless you address the problem.”

Determine Data Storage

Introducing a new system also may force an assessment of how much historical data a facility will store and make available, Rudomin says.

This can be a business decision based on the cost of data storage. Quality leaders may have to accept they cannot keep access to an unlimited amount of clinical data.

“Especially when your new system is a different software or process,

not an evolution of a product you already have, you may have to establish a cutoff point. Keeping 10 years of clinical data online is just not cost-effective,” Rudomin says.

“Most hospitals will use the two-year rule, which means that everything from the past two years will be transferred to the new system and kept in active storage,” he continues. “Everything prior to that will require talking to the IT folks to obtain it from the old system.”

Still, hospitals often find two years worth of data is insufficient. Someone may need to see the record from a patient’s visit five years ago.

The standard process for requesting that access from the IT department could be too cumbersome and take too long. Many hospitals develop an expedited request process for such situations, Rudomin notes.

“Hospitals underestimate that need a lot. They think that if a file hasn’t been used in five years, then they don’t need to keep it in active storage,” he says. “But there must be a provision for the exceptions when that file is needed right away.”

Staggered Training Imperfect

Training employees on a new system also brings the possibility of missteps and oversights, Rudomin says. The timing of training is one potential problem area. When many employees must be trained on a new system, it becomes necessary to stagger the education so that groups go through the process as the system is implemented. “That means that the people who were the first to be trained on the system are the farthest away from the implementation date. When the system goes live, it has been a good while since they learned

how to use it,” Rudomin explains. “If you trained people six months ago ... before it goes live, that training is worthless. You flip the switch to go live, and these people realize instantaneously that they have forgotten how to use it.”

That necessitates retraining, which comes with a cost. While they are going through retraining, staff are not fully functional in the new system, either less productive or nonproductive.

“No matter how well you train people, hospitals underestimate how detrimental that training period will be to the hospital’s productivity. Some hospitals will bring in additional human resources to fill the gaps in productivity while their employees are in training,” Rudomin explains. “You may have 50% of a department in training, but patients are still coming in, and there is work to be done.”

When implementing systems, hospital leaders may acknowledge productivity will slow down, but it can be managed. Rudomin says productivity slows much more than leaders like to believe.

“Where you can do something to minimize the effect with additional staff, do that. But please remember that you are stretching these people very thin and staff burnout will start to show up after a couple months,” Rudomin says. “People will be training half the time, then working

the other but trying to catch up on the work that backed up when they were training. They start working overtime ... after a couple months, they are completely burned out.”

Rudomin also cautions against an overly rosy estimate of how a new data system will improve quality of care or patient safety. Once a system is operational, the actual impact may not be what was expected.

“NO MATTER HOW WELL YOU TRAIN PEOPLE, HOSPITALS UNDERESTIMATE HOW DETRIMENTAL THAT TRAINING PERIOD WILL BE TO THE HOSPITAL’S PRODUCTIVITY.”

“Some will find that the system is a great tool and allows them to be more productive and effective. Other folks will find that it is a step backward for them,” Rudomin notes. “It takes them longer, not because they don’t know how to use the system

but because the design of the system requires them to jump through more hoops to do the same thing they were able to do before.”

That can lead to a significant morale problem. In severe cases, employees will start leaving the hospital because the new data system was so burdensome that they had become miserable.

A common refrain is the new system may have optimized one department’s work, but it wasn’t designed to optimize all departments, Rudomin says.

Hospital leaders must prepare to deal with this outcome, even if it cannot be entirely avoided. That might mean staffing up in anticipation of some departures or offering bonuses to offset the frustration of employees, Rudomin suggests.

For the implementation of any data system, large or small, it is vital to manage expectations and follow the “rule of twos,” Rudomin says.

“The rule of twos says that it will take twice as long to get half as far as you thought you were going to be at a certain time,” he says. “If hospitals are willing to accept that and factor it into their expectations, they are going to have a better outcome.” ■

SOURCE

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Program Tailored to Reducing Senior Patient Readmissions

Elderly patients with no family or friends to help with care post-discharge face complex medical challenges that call for community support

A program in the Chicago area is demonstrating the value of tailoring discharge plans to the particular needs of elderly patients with little support outside the hospital.

These “solo seniors” often face complex medical challenges after discharge and can experience high rates of readmission without help from family and friends.

With hospitals facing significant penalties from 30-day readmissions, the program could be a model for hospitals to emulate.

Seniors Alone Guardianship & Advocacy Services is a not-for-profit program that works with Chicago-area hospitals to closely monitor elderly patients after their release from the hospital.

The group helps spot health issues as they arise and see that patients are treated before these issues become serious enough to require readmission.

The advocates supervise post-discharge care to ensure patients are receiving what they need, whether in a skilled care facility or receiving care at home, explains Founder and Board Chair **Teri Dreher**, RN, CCRN, iRNPA, who left hospital nursing after 40 years as an intensive care nurse.

In addition to the seniors program, she also is chief advocate and president of North Shore Patient Advocates, a Chicago company that provides assistance to patients who need help navigating the healthcare system. Dreher was inspired to form Seniors Alone as a result of the

struggling “senior orphans” she has met through her advocacy business. She notes that one out of every four seniors in Illinois must face healthcare challenges alone while surviving on less than \$20,000 per year. The Seniors Alone assistance is

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JUSTICE ISSUE.
THIS COUNTRY
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TAKE CARE OF
OUR SENIORS.”

particularly important for medically complex patients, which many seniors are, Dreher notes.

Multidisciplinary Team

The Seniors Alone team includes experienced nurses, social workers, care managers, attorneys, and guardians.

They work with healthcare providers, courts, and long-term care resources to ensure patients receive appropriate care.

If a hospital called on the program to assist with the discharge plan for a solo senior with a broken hip, the team would choose the rehabilitation facility and make post-rehab living arrangements, Dreher explains.

This would include finding a skilled care facility or home healthcare agency, coordinating with Medicare and Medicaid, and monitoring the patient’s ongoing health.

Seniors Alone’s fees are assessed on a sliding scale, based on the client’s ability to pay. The client readmission rate for Dreher’s patient advocacy company has stayed under 1% for the last eight years, and she hopes to maintain the same rate for the not-for-profit Seniors Alone.

The American Hospital Association (AHA) reports that almost 20% of Medicare beneficiaries return for readmission within 30 days of discharge. Further, each readmission of a senior patient costs the hospital an average of \$7,400.¹

The AHA profiled a program at Rush University Medical Center in Chicago that focuses on the post-discharge needs of seniors.¹

Staff from the hospital’s older adult programs and case management department created the Enhanced Discharge Planning Program in which social workers call senior patients after discharge to check on compliance with their discharge plans. The social workers also look for unmet needs and facilitate solutions to meet those needs.

In a pilot program on four units, the social workers found 67% of discharged senior patients were not receiving necessary services, following discharge recommendations, or coping with care demands.¹ Hospitals are interested in this type of support

because many do not have the resources to provide this kind of support to solo seniors, even though they realize those patients can be in jeopardy after discharge, Dreher says. She encourages hospitals to consider developing similar programs because the need is significant — and so are the potential benefits.

“There are an awful lot of bad skilled nursing facilities, bad home care companies, and a lot of home care companies are going out of business because of new Medicaid guidelines,” Dreher says.

“For seniors who don’t have family to be their caregivers, they are really falling through the cracks, especially if they are starting to have cognitive issues,” she continues.

“They don’t have someone to check on their medications, to oversee the care they’re receiving from the skilled nursing facility or home care provider. You end up with them being readmitted to your hospital unnecessarily.”

Addressing solo seniors with a post-discharge program can help reduce 30-day readmissions, improve patient engagement, boost patient compliance, and shorten hospital stays by helping families pick out a reliable rehab facility or home care company, Dreher says. “To us, it’s a social justice issue. This country

doesn’t have a great way to take care of our seniors. With 10,000 people turning 65 every day, hospitals that can figure out how to best provide care management for these seniors without any support will serve their community better and reap benefits of their own, too,” Dreher says.

“Hospitals sometimes keep patients in the hospital for a week or two because they have no safe discharge plan, creating a pain point for the hospital that results in additional costs and burdens on your resources,” she adds.

Saving on Medicare Penalties

The costs for such a program, in-house or from an outside provider, should be offset by the savings in avoiding Medicare penalties for excessive readmissions and other losses that can come from treating solo seniors, Dreher says.

“Plus, [hospitals] have to carry the expense for the extended hospital stay of patients who are medically stable but can’t be discharged without an adequate plan. They’re sitting in a hospital bed that costs \$3,000 to \$4,000 a day,” Dreher says. “When the insurance companies and Medicare say they’re

not paying for more days, the hospital administration is stuck. It costs too much money to keep them, but you don’t want to discharge them and see them come back for readmission within a month.”

Dreher says quality professionals can make a business case for providing special discharge planning for solo seniors, in addition to the improvement in community support for a vulnerable population.

“We can do it because it’s the right thing to do for these senior patients who don’t deserve to be left on their own at this time in their lives. But there’s no doubt that hospitals will see a benefit to the bottom line as well,” Dreher says. ■

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Digital Chatbot Helps Guide Patients Through Hospital Care

Solution communicates with patients through personal cellphones, including information about schedules, lab test status, and other aspects of the experience

Banner Health is using “chatbots” in some of its EDs to help guide patients through the care process and improve satisfaction. Patients can interact with the

chatbot in a conversational style on their cellphones to ask questions and stay informed about schedules, lab statuses, and other aspects of their experience.

The chatbot can communicate in English and Spanish. *(Editor’s Note: Banner Health uses text-based chatbot technology provided by LifeLink in Oakland, CA. Similar chatbot*

technology is available from other companies, including LivePerson in New York City and Ada in Toronto.)

The health system tested the technology in a pilot project at one ED and expanded the program after receiving a good reaction from patients, says **Jeffrey Johnson**, vice president of innovation and digital business with Banner Health, based in Phoenix.

At a Banner Health ED, patients are offered the opportunity to receive updates on their cellphones at check-in, Johnson says.

Those who accept receive a one-click activation text message that establishes a secure HIPAA-compliant connection to the chatbot, which then automatically provides updates and information to patients through conversational messaging that appears similar to texting.

“The initial testing with our customers yielded a very positive response, so we were optimistic about rolling it out more in our system. We were excited to see that we immediately were getting the same gains we had achieved in the pilot project in terms of engagement and customer satisfaction,” Johnson says.

“We’ve now rolled it out to all 28 of our hospitals,” Johnson adds. “It’s become a normal course of business for our emergency rooms and how we engage patients when they come in.”

Integrated With Medical Record

The chatbot usually interacts about eight times with each patient during their ED visit, Johnson reports. The chatbot is integrated with Banner’s electronic medical record (EMR), which provides the

chatbot with real-time updates that are personalized to the patient.

The conversations include the opportunity for the patient to provide feedback, which is used to monitor patient satisfaction and identify opportunities for improvement, Johnson says.

“WE WANT TO CONNECT THE ENTIRE JOURNEY WITH THIS DIGITAL ASSISTANT THAT IS THERE WITH YOU AT THE RIGHT TIMES.”

Banner has seen improvements in its Net Promoter Scores (NPS) since adopting the chatbot technology, and Johnson says hospital leaders are optimistic they will see improvements in HCAHPS, ED-CAHPS, and other benchmarks.

“We do a survey after every interaction with patients and measure the satisfaction with that. It’s all trending very positive, and we anticipate that our scores will align well with what we’re seeing in the surveys post-engagement,” Johnson predicts.

“We will start doing some comparative analysis among hospitals and better understand whether we’re having higher impact on some of the busier urban hospitals,” he adds.

Johnson says the most promising part of the project is the chatbot gives Banner Health something to build on for improving customer satisfaction. Providing a chatbot

option for emergency patients is only part of what Banner Health leaders plan for improving the patient experience, he says.

“We’re looking to extend [patient engagement] by looking at how patients first start searching for an ED online, and our option to start the registration process online before you arrive,” Johnson explains.

“We have that option available at about half of our hospitals, and we’re getting very good feedback from patients on that,” Johnson continues. “People like to tell us they’re coming in. The next step might be to use the chatbot technology before they even arrive, providing them with a map to get to the hospital, information on wait times, a picture of the entrance to the ED, where to park, how to get to registration.”

Extending to Post-Discharge

Banner Health also wants to extend the idea to the post-discharge period, with the chat technology helping patients obtain prescriptions, lab results, follow-up appointments, and other information after leaving the hospital.

“We want to connect the entire journey with this digital assistant that is there with you at the right times, telling you the next steps in your care journey,” Johnson says.

One challenge for Banner Health was the integration of the chatbot technology with the health system’s Cerner EMR. Banner Health had never integrated a customer-centric technology with the EMR. However, the integration was key to making the chatbot useful and providing patient-specific information rather than just general updates and advice, Johnson says.

“Part of the value of the chatbot is giving you personalized information by connecting right to orders and statuses that are relevant specifically for you. That makes the conversation relevant to your personal experience and far more helpful than generalized information,” Johnson explains.

“It has far more impact on the patient experience to tell them their next step and how to get to that department, rather than a general announcement to everyone in the waiting room about the wait time or how the process works,” he continues. “People respond to information that is about them personally and makes their experience easier.”

The other challenge involved how to socialize the technology with ED staff, Johnson says. The chatbot represents a new way of interacting with patients. Although the effects are positive, any change in such established routines can be difficult for staff.

“There was change management training that had to go on with the front desk and with clinicians so that they were aware of what the customer was experiencing with the chatbot,” Johnson says. “It wasn’t overwhelming, but it has to be anticipated as part of introducing a technology like this that changes how people interact with one another.”

Ask Patients for Design Input

Johnson says the chatbots are not intended to replace any personal interaction with staff. The technology actually improves the value of interaction with staff by helping keep patients informed and

lowering anxiety about the ED visit, he says.

Hospitals should work with patients to help design a chatbot program, Johnson suggests. Banner Health solicited patient input on the design of their ED chatbot.

ALTHOUGH THE EFFECTS ARE POSITIVE, ANY CHANGE IN SUCH ESTABLISHED ROUTINES CAN BE DIFFICULT FOR STAFF.

“Verify that the technology is going to do what you want it to do and have the positive impact you’re seeking. Model out the prototypes, and ask the customer if this input is helpful or not, whether it improves the patient experience,” Johnson

says. “Don’t assume it will just because you think so. Any new technology like this has the potential to be really valuable to the customer, or it can potentially be annoying if it’s not giving them what they need.”

Banner Health also is in the early stages of implementing a chatbot that helps with annual health risk assessments for Medicare. The early experience with that pilot has been positive, Johnson notes.

“I really think digital assistants and conversational bots can have a huge impact on the customer experience. We look at them as expanding and reinforcing the face-to-face interaction with our staff,” he says. “As confusing as healthcare can be, we see that patients appreciate this second level of support and guidance. We’re just tapping the potential of these conversational bots in healthcare.” ■

SOURCE

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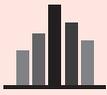
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After completing this activity, participants will be able to:

1. Identify a particular clinical, legal, or educational issue related to quality improvement and performance outcomes;
2. Describe how clinical, legal, or educational issues related to quality improvement and performance outcomes affect nurses, healthcare workers, hospitals, or the healthcare industry in general;
3. Cite solutions to the problems associated with quality improvement and performance outcomes based on guidelines from relevant authorities and/or independent recommendations from clinicians at individual institutions.

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CE QUESTIONS

- 1. Which is included in the pre-op Red Bag at Indiana University Health?**
 - a. Immunonutrition drink
 - b. Inspirational book
 - c. Toothpaste and other toiletries
 - d. Comfortable clothing to wear at the hospital
- 2. What is one likely result from implementing a new data system?**
 - a. Staff may refuse to learn the new system.
 - b. One may have to decide how much data to transfer from the old system.
 - c. It will not be possible to transfer data from the old system.
 - d. The new system may inadvertently lock users out for long periods.
- 3. The American Hospital Association reports that almost 20% of Medicare beneficiaries return for readmission within 30 days of discharge. On average, how much does each readmission cost the hospital?**
 - a. \$2,400
 - b. \$5,400
 - c. \$7,400
 - d. \$10,400
- 4. In the current digital chatbot program at Banner Health, when are patients offered the option of communicating through their cellphones and the chatbot system?**
 - a. At check-in
 - b. After triage
 - c. After first being seen by a clinician
 - d. At discharge