MOVING TO VALUE-BASED CARE DELIVERY:
Enhanced Recovery Programs
The Health Management Academy

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The Academy Enhanced Recovery Program (ERP) Study

The Academy conducts research on key strategic areas of most interest to the largest health systems. High priority topics in 2015 are innovation, consumer and patient engagement, evolving payment models, enterprise risk, and health policy. Disruptive innovation and adoption has been an ongoing subject of past research.

The Academy became aware of Enhanced Recovery Programs (ERPs) as a potential research topic. An initial literature search showed that ERPs were designed to improve the patient experience through enabling the patient and their provider to work together in care planning and decision-making. Despite a large evidence base demonstrating the efficacy of ERPs, their adoption has been limited to relatively few health systems in the United States. Based on their positive effect on patient engagement, improved patient outcomes, and decreased hospital costs, The Academy viewed ERPs and their adoption as an ideal topic for research.

In January 2015, The Academy launched a research study consisting of a quantitative survey of 46 Leading Health Systems and subsequent qualitative interviews with ERP leaders at three health systems with formal ERPs. This report reviews the findings of the study and presents three mini-case studies on the adoption of ERPs at three Leading Health Systems.

Key Findings

- Centered on a shared decision-making approach, Enhanced Recovery Programs (ERPs) have been associated with increased patient satisfaction, improved patient outcomes, and decreased hospital costs. Key elements of ERPs include: early alimentation, frequent ambulation, and perioperative fluid optimization.

- Among the largest health systems, 55% of clinical executives are familiar with ERPs and have a favorable impression of ERPs positively influencing patient satisfaction and care. However, adoption of ERPs remains limited to relatively few health systems across the United States.

- After implementation of their ERPs, Lehigh Valley Health Network, Ochsner Health System, and Intermountain Healthcare noted high patient engagement and promising improvements in quality of care and cost decreases due to significant reductions in hospital length of stay, complications, and readmissions. Intermountain Healthcare and Ochsner Health System both observed an average decrease in length of stay of 1.5 days with readmissions rates remaining stable or decreasing.

- As illustrated in the case studies, successful implementation of an ERP involves the development of a protocol by a multidisciplinary team, spearheaded by a physician champion, and the education and commitment of key stakeholders regarding the protocol, data collection, and program evaluation.

“Patient engagement is paramount. It was very exciting to share with our team the fact that patients returning for a second joint replacement in the Perioperative Surgical Home (PSH) pathway started requesting to be discharged on postoperative day 1. That’s when we knew we were getting traction.”

– David M. Broussard, MD, MBA, System Vice-Chair, Anesthesiology, Ochsner Health System

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Introduction

First developed and implemented in Europe, an Enhanced Recovery Program (ERP) is a multidisciplinary care pathway centered on standardizing care and applying evidence-based medicine to a patient’s perioperative journey. (1-3) Focused on enhancing the patient experience and achieving better outcomes through shared decision-making between the patient and their provider, ERPs are designed around the individual, encouraging patients to take an active role in their recovery. Common components of an ERP include: preoperative counseling, perioperative fluid optimization, optimization of nutrition, early and frequent mobilization, minimally-invasive surgical techniques, and improved pain management. (1, 4)

By educating and engaging patients through the whole care pathway, ERPs have achieved improved outcomes, including significant reductions in surgical complications, hospital length of stay, and hospital costs, as well as increases in patient satisfaction. (5-8) Fluid optimization using perioperative goal-directed therapy (PGDT), in particular, has been associated with decreases in morbidities associated with renal failure, respiratory failure, and wound infections as well as a reduction in length of stay by 1.16 days. (9, 10)

Despite compelling evidence supporting the effectiveness of ERPs, adoption of this clinical care pathway in the United States remains limited to a few health systems. (2, 8, 11) Using relatively simple care pathways, Banner Health successfully adopted a protocol across 19 acute care hospitals, involving more than 100 surgeons. (12-14) Banner Health’s ERP for bowel surgery, focusing on early alimentation and frequent ambulation, was associated with a 28.8% reduction in overall complications and 17.5% decrease in readmissions. (12) Following implementation of a standardized total knee arthroplasty care pathway centered on early ambulation and avoidance of continuous urinary catheters, Banner observed a 10.5% decline in overall complications and an 18.8% decrease in readmissions, resulting in an average reduction in cost of $1,040 per case. (13) After implementing an ERP for colorectal surgery, Duke University Medical Center noted a significant reduction in length of stay from 7 days to 5 days as well as decreases in incidence of urinary tract infections and readmissions rates. (15)

The Academy ERP Survey

To assess awareness of ERPs among clinical executives at the largest health systems, The Academy conducted a survey of 46 Leading Health Systems regarding ERPs. With a response rate of 43%, 20 Chief Medical and Nursing Officers participated in the survey. The health systems these clinical executives represent had a median Net Patient Revenue (NPR) of $3.3 billion and own or operate over 350 hospitals with 80,280 beds.

Reporting health systems were united around quality initiatives for improving patient safety, preventing infections and complications, reducing clinical variation, and enhancing the patient experience. As illustrated in Figure 1, 55% of clinical executives were familiar with ERPs. All executives who were aware of ERPs have a positive overall impression of ERPs influencing patient care. Just over half of these health systems (55%) have plans and investments in ERPs that are tied to quality objectives in their strategic plans.

*“It was important for us to keep the message simple and straightforward, focusing on the key elements that lead to changes in patient outcomes.”* - Terry Loftus, MD, MBA, FACS, Medical Director, Surgical Services & Clinical Resources, Banner Health

![Figure 1. Are you familiar with Enhanced Recovery Programs (ERPs)?](image-url)
Lehigh Valley Health Network: Empowering Patients

Founded in 1899, Lehigh Valley Health Network (LVHN) has grown to become one of the largest health systems in the northeastern United States. Located in Pennsylvania, LVHN is comprised of 4 hospitals, including 1,120 beds, and 40 primary care and specialty clinics. (16, 17) LVHN has over 1,300 primary care and specialty physicians with over 630 of these physicians employed by the Network. (16, 17) In 2014, LVHN’s NPR exceeded $1.6 billion.

Committed to improving the health and wellbeing of the entire Lehigh Valley community, LVHN joined AllSpire Health Partners, an alliance of seven large health systems focused on population health management, patient care, research, and education. (16, 18) In 2009, LVHN partnered with the University of South Florida’s Morsani College of Medicine to create the SELECT program and help train the “doctors of tomorrow.” (19)

Motivation

Following a network-wide strategic retreat focused on setting departmental priorities for the year, Dr. Michael Pasquale, Chair of the Department of Surgery, began exploring evidence-based opportunities for decreasing complications, reducing length of stay, and improving patient satisfaction. The clinical program needed to be consistent with LVHN’s strategic plan, manageable with respect to scale, and able to be completed within one year of the retreat.

In July 2014, Dr. Pasquale attended an American College of Surgeons (ACS) meeting, at which the University of Virginia, Duke University, Johns Hopkins University, and McGill University presented their protocols and patient outcome data for their ERPs, demonstrating the significant benefits achieved through implementation of their programs. As part of the ACS’s National Surgical Quality Improvement Program (NSQIP) – a national program focused on using evidence-based surgical techniques to reduce complications and improve quality – each participating institution had a surgeon champion responsible for leading a team and collecting data on compliance and outcomes.

“'We are a network that is always dedicated to evidence-based practice, providing the best care for the patient.”

- Sharon Pustilnik, RN, BS, CMSRN, Director, 4K Medical Surgical Unit

“'It proves helpful to gather people within your network that share the same vision.”

- Pat Toselli, DO, MMM, Vice-Chair, Department of Surgery

Subsequently, developing an ERP became the top departmental priority for the year, and a multidisciplinary team was formed to develop a protocol and implement a comprehensive perioperative care pathway to standardize colorectal surgeries at LVHN.
Program Planning, Implementation, and Evaluation

Dr. Pasquale and Dr. Pat Toselli, Vice-Chair of the Department of Surgery, were the surgeon champions who quickly formed a steering committee, comprised of colorectal surgeons, anesthesiologists, nurses, business administrators, and representatives from Quality and Pharmacy. The interdisciplinary team focused on developing a protocol for adult patients having elective colorectal surgery, which has historically been associated with increased morbidity and longer hospital stays.

The team developed the protocols and metrics based on published evidence, site visits to Johns Hopkins University, and internal discussions with LVHN physicians. After a comprehensive nine-month planning period consisting of monthly meetings, collaborative site visits, and educational presentations to all key stakeholders, LVHN’s ERP went live on April 1, 2015. Key elements of the ERP included: preoperative patient education, minimally invasive surgery, intraoperative anesthesia epidural management, postoperative narcotics-sparing strategies, accelerated ambulation postoperatively, rapid hydration and nourishment after surgery, postoperative nausea and vomiting risk assessment, and post-discharge calls to monitor patient progress. Fluid management techniques were implemented using a noninvasive hemodynamic monitor, which allows for goal-directed intraoperative fluid administration. Using this technology enabled improving volume management, reducing clinical variation and personalizing care through applying evidence-based practices.

As health systems adopt more of a facilitating role, seeking to enable patients to take a larger part in their own care, educating patients is becoming increasingly important. At LVHN, patients have been very engaged with the ERP, understanding that it will enable them to be discharged from the hospital earlier and healthier. Patient education and enrollment was facilitated using a booklet that detailed expectations and decision-making. The booklet, which has space for record-keeping related to diet and ambulation, encourages the patient’s own engagement and that of their primary support person.

Order sets related to the ERP were integrated with Epic in inpatient settings, and Epic was utilized to collect real-time data. Some data, such as mobilization, were difficult to collect, and this information was gathered from the patient’s booklet. The data generated will feed into NSQIP’s database, and LVHN will have access to the entire pool of 30-day risk-adjusted outcome data among the participating NSQIP Enhanced Recovery After Surgery (ERAS) institutions.

Successes and Challenges

Establishing an ERP involved investment, including hiring a nurse practitioner to oversee the program, purchasing fluid management technologies, and creating patient education booklets. Hiring the nurse practitioner was the largest cost associated with the ERP, and funding the position required administrative approval. However, the nurse practitioner was a critical role for the success of the ERP. In June, the nurse practitioner came on-board and is working closely with the nursing staff. Her responsibilities include: writing orders, managing patients (e.g., see patients daily, provide education), managing the protocol, and ensuring timely collection of the data.

Although some surgeons resisted the changes in protocol, particularly around acceptance of epidurals, the ERP team sought to overcome this cultural bias, engaging all surgeons in the colorectal service area by showing the importance of these evidence-based practices in managing complications.

“It was the first time implementing something of this scope across our network.”

– Rick Kolesky, MD, Vice-Chair, Department of Anesthesia

“Driving the success of the program is patient engagement.”

– Michael Pasquale, MD, FACS, Chair, Department of Surgery

“We believe ERAS will lead to better outcomes while helping patients feel empowered and engaged.”

– Pat Toselli, DO, MMM, Vice-Chair, Department of Surgery
Though recently launched, LVHN is already observing reductions in length of stay. Currently implemented in the colorectal service area at LVHN’s large teaching hospital, ERP leaders anticipate expanding to other surgical areas, including urology, oncology, and gynecology, contingent on the pilot program yielding favorable results.

Working together, as one large, cross-functional team, created a greater sense of enthusiasm and collegiality among all those involved in LVHN’s ERP. Although it could be challenging to integrate multiple perspectives into one standardized protocol, there was engagement at every level, and everyone shared the vision of developing a new protocol that would be the best practice for patients. Through implementing this innovative care process, the ERP team is furthering LVHN’s mission to “heal, comfort, and care for the people of [their] community by providing advanced and compassionate health care of superior quality and value supported by education and clinical research.” (16)

Ochsner Health System: Multidisciplinary Teams

Ochsner Health System, founded in 1942, is the largest nonprofit, academic health system in Louisiana with over 17,000 employees and 1,500 medical residents, medical students, and allied health students receiving training annually. (20, 21) Dedicated to their mission to “Serve, Heal, Lead, Educate and Innovate”, Ochsner provides coordinated high quality patient care across the region with 25 owned, managed, and affiliated hospitals and about 50 health centers. (20, 22) Conducting over 750 clinical research studies and publishing over 200 medical research articles annually, Ochsner is a leader in healthcare education, innovation, and excellence (20, 22).

Ochsner developed ERPs in response to the nationally changing healthcare landscape. In an effort to move towards value-based delivery of care, Ochsner developed multiple ERPs, two of which are highlighted in this case study: (1) A Perioperative Surgical Home Program for patients undergoing total hip arthroplasty; (2) A Postoperative Clinical Care Pathway for pancreaticoduodenectomy (Whipple) patients. Surgical champions helped lead these efforts, developing tailored structures and clinical care pathways to meet the unique needs of each service area’s patients. Facilitated by Ochsner’s implementation of Epic, Electronic Health Record (EHR) integration has been instrumental in ERP data collection and analysis. Real-time data have served to assess progress and report key findings to executive leaders. Through the dedication of physicians, nurses, physical therapists, care navigators, and hospital administrators, both programs have resulted in significant improvement in patient outcomes and cost savings.

Perioperative Surgical Home Program

Motivation

Through participation in a national conference hosted by the American Society of Anesthesiologists, physician and administrative leaders from Ochsner Medical Center, a 575-bed tertiary-care hospital, learned of the Perioperative Surgical Home (PSH), an innovative, evidence-based approach to improving care. Based on the PSH, the team developed a pilot program initially focused on patients undergoing total hip arthroplasty.
Program Planning, Implementation, and Evaluation

An anesthesiologist champion, in collaboration with the Orthopedics Department, formed a multidisciplinary team, composed of physician residents, nurses, physical therapists, and care managers. Through extensive literature reviews and collaborative learning with institutions including Duke University and the University of California, Irvine, the interdisciplinary team developed preoperative, intraoperative, and postoperative protocols for the surgical home care pathway. The effectiveness of the tailored model was assessed through a pilot study conducted from March 17, 2014 to August 1, 2014. The team gathered weekly to debrief on lessons learned, making continuous refinements to the pilot program. They also proactively reviewed the schedule for the upcoming week to ensure the entire team was coordinated around an individualized care plan for each patient.

A total of 74 patients enrolled in the pilot program and participated in the clinical care pathway. The preoperative protocol focused on assessing and educating patients. During an education class, patients were informed about the surgical process and the timeline for the pathway with an emphasis on the benefits of early discharge. The intraoperative protocol aimed to improve the quality of care through standardization. In the case of total hip arthroplasty, a standardized approach to intravenous fluid therapy was developed. The postoperative portion focused on care coordination. Aside from the anesthesiologist making daily rounds and providing a multimodal analgesic regimen to manage pain, physical therapy was performed in the recovery room, just hours after surgery. At the end of the care pathway, a Patient Satisfaction and Experience with Anesthesia Assessment, adapted from the Anesthesia Quality Institute, was completed. (23)

Successes and Challenges

With an average Harris Hip Score in the excellent range (90-100) and strongly positive patient satisfaction (95% top box), the results of the pilot study were promising. The improved hip surgery outcomes resulted in a quicker recovery for patients, less time in the hospital, and a lower utilization of post-acute skilled nursing facilities. Readmission rates remained steady at 4%, and length of stay decreased from 3.5 days to 2 days, resulting in a savings of $201,931. (23)

The key to the success of the PSH program was Ochsner’s collaborative, shared accountability approach, facilitated by the interdisciplinary team and patient engagement. The multidisciplinary team structure served to involve key stakeholders, integrate multiple perspectives, and develop a clear goal to a problem that cut across several disciplines. With a team unified around a shared vision and goal, patients were more likely to be open and enthusiastic to the new protocols.

Through the coordinated effort of an anesthesiologist-led interdisciplinary team, the PSH program provided higher quality care to patients while reducing costs. The continued success of this program has led to further expansion and best practice sharing across the health system.

Enhanced Recovery After Surgery (ERAS): The Whipple Procedure

Motivation

Prompted by the need to improve postoperative care, surgical oncologists at the Gayle and Tom Benson Cancer Center, part of Ochsner Medical Center, began researching ways to reduce healthcare costs while maintaining high quality care. In collaboration with anesthesiologists, they began developing a postoperative pathway for pancreatectoduodenectomy (Whipple) patients. Initially brought to the Cancer Center by surgical leads who heard about ERAS through word of mouth and the literature, a multidisciplinary team was soon formed.
Program Planning, Implementation, and Evaluation

The multidisciplinary team worked to tailor the ERAS protocol for Whipple patients. From 2010 to 2013, 183 Whipple patients participated in the standardized postoperative clinical care pathway, which included a nutrition regimen, ambulation, and a post-discharge phone call. Patients were also involved in preoperative educational sessions, reviewing their daily goals. Implementation and management of the clinical care pathway was led by a nurse practitioner and supported by a team of hospital nurses who met twice a month.

The nurse practitioner was formally trained in coding to ensure the accurate prediction of outcomes while the nurses engaged in educational sessions. The nurse practitioner and hospital nurses were responsible for documentation using Ochsner’s EHR.

Successes and Challenges

A review of the findings indicated that the utilization of a mid-level provider to implement a postoperative Whipple care pathway substantially reduced length of stay and readmissions. The average length of stay fell from 15.4 days to less than 10 days, and 30-day readmissions dropped from 33% to 18%. This resulted in a total cost savings of $3,000 per case. (24)

Hiring a nurse practitioner to manage the clinical care pathway was the greatest cost for the program. However, as the ERP literature suggests, maintaining continuity of care on the floor is crucial to the success of an ERP. Using this rationale, clinicians within Surgical Oncology Services persuaded the administration to fund the position. Changing culture and empowering nurses to ambulate patients, instead of waiting for a directive, was also key to the success of the program.

Overall, the service line-specific approach, driven by a mid-level provider, was demonstrated to be cost-effective, and expansion to other service lines at Ochsner may yield similar favorable results.

Intermountain Healthcare: Individualized Data

Founded in 1975, Intermountain Healthcare is one of the largest, nonprofit health systems in the United States. Based in Salt Lake City, Intermountain operates 22 hospitals and 185 clinics throughout Utah and southeastern Idaho and has an employed medical group of 1,400 multispecialty physicians, making it the largest healthcare provider in the Intermountain West. (25) For 2014, Intermountain’s revenue totaled over $5.5 billion with $1.8 billion derived from SelectHealth, Intermountain’s health plan that covers 750,000 lives. (26, 27) Providing the highest quality of care and service to patients, Intermountain’s mission to “help people live the healthiest lives possible” is exemplified in its commitment to clinical excellence through evidence-based practice. (28, 29)
Motivation

In 2007, Dr. Lyle Archibald, the Medical Director of the Surgical Services Program at the time, set out to create a care process that would have a significant impact across the health system. Highly committed to implementing an innovative care process model, he reviewed the literature on quality improvement initiatives, focusing on colorectal surgeries, which generally involved 1,200-1,500 patients a year. Reviewing the current evidence supporting the effectiveness of colorectal surgical care pathways, Dr. Archibald presented his ERP plan to senior leadership, facilitating the ERP becoming a board goal. He quickly formed a multidisciplinary team with the objective of broadly integrating all the pieces of an ERP for colorectal surgery and planned to implement the program the following year. Initial goals were established, including decreasing length of stay and setting up an automated data abstraction and reporting system to track and assess the progress of patients enrolling in the ERP.

Program Planning, Implementation, and Evaluation

In 2008, when the ERP was launched, it originally focused on colon patients because this was an opportunity for a major impact on decreasing length of stay and complications. The cross-functional team, led by Dr. Archibald, consisted of general surgeons, anesthesiologists, nurses, physical therapists, respiratory therapists, dieticians, operations leaders, and data experts. Over the course of a year, the team worked on reviewing the published evidence on ERPs, creating a comprehensive care process, developing educational materials, and recruiting support throughout the health system. As the first Surgical Services quality improvement project of this scale, Dr. Archibald sought to engage leaders at various hospitals across the system, presenting data in support of ERPs and educating those involved on the protocols. Working with the administration, the team initially rolled out the ERP for colorectal surgeries at 1-2 high-volume hospitals, gradually expanding the ERP across the health system over the course of 2-3 years.

Since ERPs typically contain multiple elements that are thought to lead to improved patient outcomes, ERP leaders at Intermountain sought to develop a comprehensive ERP, integrating all the important pieces of the protocol. Key components of Intermountain’s ERP included: preoperative patient education, minimally-invasive surgery, recommendation of patient-controlled analgesia-administered opioids, avoidance of abdominal drains and nasogastric tubes, avoidance of excessive IV fluid administration, early alimentation and frequent ambulation, patient discharge based on functional criteria, and bowel preparation according to the surgeon. (30, 31) Patient education, facilitated by a brochure describing the whole program, involved preoperative phone calls and in-person discussions related to the patient’s postoperative care plan and patient expectations.

Data was captured using Intermountain’s homegrown EHR with the data automatically updating. Gathering information electronically required building a data warehouse and creating an electronic dashboard, which was facilitated by programmers and data architects. The collection of data was designed so that the data points of interest were collected at each hospital and sent to the data warehouse, streamlining the process for tracking clinical outcomes and patient compliance to protocols system-wide. Through this process, data could be compared between patients, surgeons, and hospitals, and the importance of various pieces of the care process could be evaluated.

“...It’s not just one element of the ERP that helps patients recover better, it’s a combination of all the elements.”
- Matthew Peters, RN, MS, Clinical Program Manager, Surgical Services

“We started getting data back, and we saw that patients who enrolled did much better than those who did not. Generally, better patient satisfaction, less readmissions, and lower costs. As clinicians see that, there is a natural desire to adopt.”
- Mark Ott, MD, Chief Medical Director, Intermountain Healthcare’s Central Region Hospitals

Since Intermountain is largely geographically spread out with 100 surgeons that could potentially participate in the ERP, it was essential that the EHR collected performance data, including patient satisfaction and clinical outcomes, and be made available to physician and operations leaders.
**Successes and Challenges**

From rural to large tertiary facilities, all participating hospitals at Intermountain Healthcare observed a substantial decrease in length of stay (average: 1.5 days) with overall rates of readmissions and returns to surgery not increasing. (31) Consequently, average hospital cost also decreased by $1,763 per patient. (31)

Certain components of ERPs can challenge traditional practices, resulting in some physicians resisting adoption of the newly refined care process. Following the new protocols was voluntary, and ERP leaders sought to encourage surgeons to participate in the program by providing them with “individualized data.” By showing the physicians how their patient outcomes and patient satisfaction scores compare with other physicians who adopted the protocols, those initially reluctant to change practice were more likely to participate in the ERP.

Although ambulation was a big success, the increased work load for nurses to get the patient up and moving was unsustainable; therefore, patients were asked to bring a family member or friend to help with ambulation. Currently, Intermountain is also piloting a wrist watch, which acts as an activity tracker. It can be used to set the patient’s goals for the day by guiding them on how much to walk and reminding patients to ambulate. Syncing and sending data, the wristwatch can also track patient recovery at home, enabling physicians to monitor patient progress and determine when the patient has returned to normalcy.

Although resource-intensive, evaluating and disseminating the results of the ERP was crucial to its long-term success. Continuously gathering data and refining their protocols based on emerging evidence, ERP leaders utilized information management and data analytics to improve upon and expand their ERP.

ERP principles have broad applicability, and Intermountain has plans to expand its ERP to include all alimentary track surgeries. Recently, Intermountain also completed a double-blind randomized study demonstrating the efficacy of alvimopan (Entereg, Cubist Pharmaceuticals), an oral medication designed to prevent constipation caused by opioids and accelerate patient recovery after bowel surgery. (32) Findings of its in-house study indicated that alvimopan can decrease length of stay by an additional day, and thus, alvimopan administration has been added to the protocol. The efficacy of Intermountain’s ERP was apparent across large tertiary facilities as well as small rural facilities, indicating that it is widely applicable across various types of hospitals and health systems.

**Conclusion**

By educating and engaging patients throughout the care pathway, ERPs have achieved improved outcomes, including significant reductions in surgical complications, hospital length of stay, and hospital costs. After implementation of their ERPs, Intermountain Healthcare and Ochsner Health System both observed an average decrease in length of stay of 1.5 days with readmissions rates remaining stable or decreasing.

**Awareness**

Among the largest health systems, just over half of clinical executives are familiar with ERPs, and these executives have a favorable impression of ERPs positively influencing patient satisfaction and care. However, adoption of ERPs remains limited to relatively few health systems across the United States.

**Multidisciplinary Teams**

As illustrated by Lehigh Valley Health Network, Ochsner Health System, and Intermountain Healthcare, successful implementation of an ERP involves the development of a protocol by a multidisciplinary team, led by a physician champion.
Although it could be challenging to integrate multiple perspectives into one standardized protocol, there was engagement at every level, and the vision was shared of developing a new protocol that would be the best practice for patients. Working together, as one large, cross-functional team, created a greater sense of enthusiasm and collegiality among all those involved in the ERP. With a team unified around a shared vision and goal, patients were more likely to be open and enthusiastic to the new program.

Guiding Principles for Implementing an ERP

**Culture Change**

For Lehigh Valley Health Network, Ochsner Health System, and Intermountain Healthcare, changing culture and engaging key stakeholders were key to the success of their programs. Certain components of ERPs can challenge traditional practices, resulting in some physicians resisting adoption of the new care process. The ERP teams sought to engage these surgeons by showing the importance of evidence-based practices in managing complications and improving patient outcomes. At Intermountain Healthcare, physicians received “individualized data” indicating how their patient outcomes and patient satisfaction scores compared with that of other physicians, prompting those who were initially reluctant to adopt the new protocols.

**Information Management and Data Analytics**

Establishing ERPs involved investment, including hiring a nurse practitioner, purchasing fluid management technologies, and/or developing patient education booklets. Although resource-intensive, evaluating and disseminating the results of the ERP were crucial to its long-term success. Continuously gathering data and refining protocols based on emerging evidence, ERP leaders utilized information management and data analytics to improve upon and expand their ERP. The continued success of ERPs has led to further expansion and best practice sharing across each health system.

**Summary**

With the transition from volume to value-based delivery of care, health systems are considering innovative care process models to enhance the patient experience and improve quality of care while reducing costs. Supported by evidence from ERPs implemented in Europe, these programs have been shown to increase patient satisfaction, improve patient outcomes, and decrease hospital costs.

Through promoting shared decision-making between the patient and their provider team, ERPs present an opportunity for patients and providers to work together in developing a personalized care plan, based on the best available evidence and the preferences of the patient. We expect that the use of ERPs will increase substantially over the remainder of this decade among the largest health systems in the U.S.
References


