The Perioperative Surgical Home: *From Concept to Reality*

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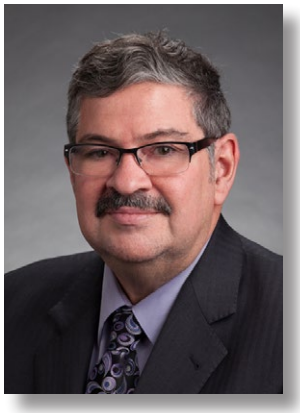
The transformation of American health care is shining a spotlight on the shift from volume to value-based care. Across specialties, physicians expect that value-based payment models will equal about 50 percent of their total compensation in the next 10 years.[1] Secretary of Health and Human Services Sylvia Mathews Burwell announced in January an accelerated goal to have 30 percent of Medicare payments in alternative payment models, including bundled payments, by the end of 2016 and 50 percent by 2018.[2] The Perioperative Surgical Home (PSH) Learning Collaborative is implementing a proactive vision of redefining value propositions in new models of care delivery and payment to provide relevance in an evolving market. The PSH model is a patient-centered, physician-led, interdisciplinary and team-based system of coordinated care for the procedural and surgical patient.[3]



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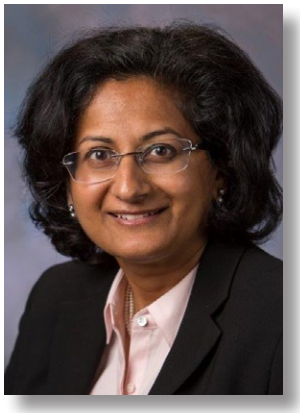

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The PSH Learning Collaborative has 44 health care organizations piloting many different projects to achieve the overall goals of this initiative. The three goals of the collaborative are to: a) develop better delivery of perioperative care models focused on the needs of the patient; b) better payment models to sustain the hard work in this coordinated physician-led, team-based care; and c) creation of a PSH implementation toolkit for organizations to rapidly spread knowledge. The primary metrics of the PSH are grouped into: 1) Clinical & Safety Outcomes, 2) Patient-Centered Outcomes, 3) Internal Efficiency Outcomes and 4) Economic Outcomes. These metrics will provide the framework to begin to evaluate the comparative clinical effectiveness of these pilot projects in each organization and across the collaborative to provide real-world evidence of our progress toward achieving the triple aim.

The initial focus of the Learning Collaborative was primarily developing the infrastructure and stakeholder teams for each PSH pilot in each organization. Sharing successes and barriers for the project management associated with creating change in each organization was the main imperative the first six months. The challenge of collection, reporting and analyzing the data began in January. We will have much more information to share as the collaborative concludes this November.

Our Learning Collaborative participants are all at different stages in their 17-month performance-improvement journey. We are highlighting two very different organizations focused on two very different populations of patients experiencing common perioperative care processes. One is a large pediatric

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health system and the other is a small community hospital. They are both early in their PSH journeys for transformation of care but are willing to share lessons learned and a few of their metrics that are critical to quality.

PSH Pediatric Pilot Adenoidectomy

Nationwide Children's Hospital in Columbus, Ohio is one of the country's largest not-for-profit freestanding pediatric health care networks, with nearly 10,000 hospital staff and 1,000 medical staff. Adenoidectomy was chosen for our PSH pilot due to the surgery being common in a broad range of facilities from pediatric centers to community hospitals to ambulatory sites. At Nationwide Children's, we have an enthusiastic physician champion ENT surgeon, Charles Elmaraghy, M.D., and guidelines already in place for adenotonsillectomy. We demonstrated a decrease in unanticipated admissions and in the process found other areas for improvement.[4] Our team agreed to apply key PSH elements to a smaller project (adenoidectomy) to demonstrate success in achieving future buy-in from other service lines in our hospital. Our team emphasized the two postoperative phases because our data showed these processes required the most improvement.

Prior to implementation, there was a massive education via a series of emails and informal discussions by Vidya Raman, M.D., Joshua Uffman, M.D., and Thomas Taghon, D.O. of all four PSH phases: preoperative, intraoperative, postoperative and post-discharge. One barrier in implementation was the concurrent transition from our current electronic medical record to EPIC. Both the anesthesia and surgical services transitioned at once. Due to the complexity of the transition requiring multiple resources, our actual PSH implementation was delayed. Another distracting barrier was the simultaneous opening of the radiology sedation center.

It was necessary to standardize each phase with consistent care and medications. We currently have a strong preoperative process. We identify all patients through the PAT clinic nurse. Once identified, these patients are tagged throughout the perioperative process. The anesthetic plan is displayed in every room to provide standardized care for these children. ENT has a well-defined surgical process that it uses in every case. Similar uniform protocols are in place in the PACU. We standardized a three-minute video for parents to watch. We found the postoperative discharge instructions were not standardized and wanted the families to hear the exact same message. The follow-up anesthesia physician phone call on the evening of discharge is scripted as well.

As we launched our PSH pilot, we worked closely with our quality improvement (QI) department to ensure we are managing the project via the Plan Do Study Act protocol. The QI team generates daily reports to help target these patients. The goal is to have EPIC identify these patients in the header as PSH participants and have datasets applicable to them. Our IT champion, Nicole Rayburn, was critical in working with EPIC and the educational program. We have estimated savings of $1 million as we move toward bundled payments for adenoidectomies. We belong to Partners for Kids, which covers Medicare and One Source patients. This plan is incentivized for efficiency and participates in bundled care for these patients.

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We participate in many insurance plans with negotiated bundled payments for this procedure and various other common surgeries. We recognize this is a growing trend nationally. Our strategy is to achieve the triple aim (better health care, lower costs and improved satisfaction) for our young patients and their families.

PSH Adult Pilot Arthroplasty

White River Medical Center in Batesville, Arkansas is a 209-bed, not-for-profit community hospital performing approximately 7,000 surgeries per year. Surgery staff includes three orthopedic surgeons who perform 220-240 total joint arthroplasties per year. Representatives from administration, anesthesiology, nursing, IT, quality, care coordination and orthopedic surgery were instrumental in the development of our PSH. The orthopedic surgeons had recently joined a bundled payment initiative through Medicaid in Arkansas, and the hospital is exploring participation in the Bundled Payments for Care Improvement initiative (BPCI). We focused on total joint arthroplasty and formed four teams: preoperative, intraoperative, postoperative, and data and metrics teams.

All stakeholders agreed to standardize processes in the following areas: clinics, preadmissions testing, preoperative holding, intraoperative care, postoperative care and discharge planning. Standardization required multiple meetings between the anesthesiology and surgery departments to review literature and agree upon "our" standard of care for morbid obesity, uncontrolled diabetes mellitus, preoperative anemia, preoperative multimodal pain control, intraoperative anesthetic selection, postoperative pain control regimen and postoperative discharge disposition. The data and metric team met regularly to build reports using our Meditech electronic medical records.

Many changes in practice patterns were created through several team meetings. These practice patterns included strict screening guidelines and adherence to optimization protocols regarding obesity, diabetes and anemia along with utilization of the same implants, supplies and intraoperative local anesthetic combinations. Anesthetic changes included standardization of preoperative and postoperative pain control regimens, and anesthetic selection. Spinal or general anesthesia was decided on by co-morbidity, not provider preference.

Our biggest barriers have been related to data, team meetings and drift. Our internal data contained inaccuracies or lacked data points, and our external data were outdated and difficult to query. This forced us to create internal reports for each of our leading and lagging indicators and to meet with frontline workers to ensure the accuracy of the data documented. Since each group member worked full time in other areas of the hospital, preparing for the meetings and finding a time to meet was a struggle. Also, once a protocol was agreed upon and implemented, those involved in the process exhibited less adherence to the protocols as time passed. We are now in the process of hiring a master of health science administration (MHSA) to create process flow maps, organize meetings, take minutes, create agendas and lead discussions. This addition will allow time for each team to dedicate itself to rapid cycle improvement, creation of additional protocols, and eventually inclusion and standardization of additional service lines. This will also imbed these processes in place to avoid drift due to personnel changes or complacency.

Our goal is to incorporate evidence-informed protocols into every aspect of our perioperative care through creation of a system that will continually improve its internal adherence to the ever-changing standard of care. Our program is still in its infancy, but we are starting to see encouraging data. We have seen a decrease in postoperative pain scores, a decrease in readmissions, an increase in discharge disposition to home, and a decrease in discharge disposition to inpatient rehab facilities and skilled nursing facilities. These changes will result in a decrease in our total cost of care and should also improve the overall health of the patient and quality of the health care delivered (triple aim).

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