Anesthesia & Analgesia’s Collection on the Perioperative Surgical Home

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The American Society of Anesthesiologists, our primary professional organization in the United States, put a great deal of thought into the concept of the “Perioperative Surgical Home” (PSH). Their Web site articulates a clear and worthy vision for the PSH:

“This new patient-centered model is designed to achieve the triple aim of improving health, improving the delivery of healthcare, and reducing the cost of care. These goals will be met through shared decision-making and seamless continuity of care for the surgical patient, from the decision for surgery through recovery, discharge, and beyond. Each patient will receive the right care, at the right place, and at the right time.”

To move this initiative forward, the American Society of Anesthesiologists has committed resources to create a learning collaborative of up to 50 health care institutions to create an “evidence-based road map” for the PSH.

The American Society of Anesthesiologists has put forward a reasonable rationale why anesthesiologists, among the most specialized and expensive physicians in health care, might be tasked with leading a change in health care delivery. Paraphrasing the comments in a 2013 Webinar by Dr. Mark Warner, Annenberg Professor of Anesthesiology, at the Mayo Clinic in Rochester, Minnesota: our specialty is evolving rapidly in the current health care environment. We know perioperative medicine thoroughly, including the acute pain management services, one can make a clear case for a PSH model.” They identify the importance of financial alignment of anesthesia practice with the hospital and provide 3 ways in which it can be achieved. They also note the need to demonstrate the added value of anesthesiologists over hospitalists, who may be viewed by payers and administrators as more “cost-effective” providers.

Kain et al. are actively developing the PSH at the University of California in Irvine. Drawing on previous experience with Enhanced Recovery after Surgery (ERAS) protocols, and using LEAN Six Sigma methodology developed by Toyota to standardize production lines, the University of California in Irvine has developed PSHs for joint replacement and urology. They intend to expand the program to all elective surgical patients this year. Despite payment uncertainty, Kain et al. advocate that the PSH is “a way for anesthesiologists to move beyond the ORs and the traditional conflict with health care extenders to play a critical role in the changing environment.” The preliminary data on their Total Joint PSH show that they were able to implement and run the program, with promising results, but they do not yet have data to demonstrate that the program can improve care, reduce complications, or reduce costs.

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What are the cost reductions that the PSH can reasonably achieve? Drs. Dexter and Watchel are among the foremost experts in analyzing the costs and efficient provision of perioperative care. Their analysis in this issue of Anesthesia & Analgesia concludes that many of the proposed cost savings of the PSH, including reduced cancellations, better OR throughput, and reduced length of stay, although potentially achievable, are unlikely to produce overall cost savings when the costs of implementing the PSH are included in the cost analysis. Cancellation rates among patients undergoing outpatient surgery or admitted on the day of elective surgery can be as low as 1.6% without additional processes. A reduction in patient testing may produce considerable cost savings, as recommended by the “Choose Wisely” program of the American Board of Internal Medicine in partnership with the American Society of Anesthesiologists, but this important change in practice should happen independently of the PSH. Where the PSH can make a difference is improved matching of staffing and resource allocation to patients’ requirements. These process improvements require implementation of anesthesia information management systems and the necessary decision support tools (i.e., expertise in informatics). For example, Dexter et al. found that inpatients account for approximately half of day-of-surgery cancellations, and that the influence of these on OR efficiency could be scheduling using “statistical forecasts that include the risks of cancellation and of inpatient add-on cases being scheduled.”

Although the Total Joint PSH at the University of California at Irvine has only recently started, there may be lessons from fast-track total joint programs that have existed for many years. Krenk et al. report on the influence of fast-track management of hip and knee replacement surgery at Rigshospitalet in Copenhagen. The fast-track approach included opioid-sparing multimodal analgesia, early mobilization, and rapid discharge home. They found that postoperative cognitive dysfunction 1 to 2 weeks after discharge was lower in their patients than generally reported for this population, although by 3 months the incidence of postoperative cognitive dysfunction was similar to that of previous reports after noncardiac surgery.

The accompanying editorial by Crosby, Culley, and Dexter is sobering. Complications like cognitive morbidity often require intermediate to long-term care (e.g., skilled nursing and rehabilitation), which are huge drivers of health care costs. As they note, “the perioperative surgical home might decrease hospitalization expense but is unlikely to materially improve outcomes or significantly reduce overall costs unless it thinks about and takes responsibility for post-discharge, long-term results.” Reflecting on the suitability of our profession, “thinking about long-term outcomes is unnatural for a profession traditionally focused on today.”

Miller et al. discuss the benefits of their colorectal ERAS program at Duke University. Their ERAS protocol includes avoiding routine bowel preparation, preoperative oral hydration, epidural analgesia, avoidance of systemic opioids, goal-directed fluid therapy, early ambulation, and rapid transition to oral analgesics. The ERAS protocol reduced postoperative ileus, urinary tract infections, surgical site infections, and overall length of stay. A bootstrap analysis suggested that the ERAS intervention may have saved costs, but this does not include the costs of the ERAS implementation itself. Including the latter, there was no indication of overall cost savings.

In their accompanying editorial, Cannesson and Kain outline the difference between ERAS and the PSH. While the models share similar goals, ERAS is a well-defined clinical protocol that could be considered a subset of the PSH. The PSH is a larger framework that includes coordination of care from the minute the decision is made to operate until 30 days after surgery. As they note, the medical management captured in an ERAS protocol will typically apply regardless of where it is instituted, but the PSH will always be adapted to the particular circumstances of each institution, each state, and each country. While it is hoped that the PSH will result in improved outcomes, the authors acknowledge “there are minimal data, however, to support this assertion today.”

Butterworth and Green provide the final reality check for this review of the PSH. They lay out our challenge starkly: “It will be up to anesthesiologists to provide the evidence that it will make sense for a health system to have anesthesiologists administer and provide care in its Perioperative Surgical Home rather than another specialist who is equally bright, equally information technology-savvy, but potentially less expensive.”

The American Society of Anesthesiologists’ vision is compelling. The articles in this month’s issue of Anesthesia & Analgesia provide evidence that the PSH can improve patient experience, improve the health of our patient population, and provide moderate cost savings. These articles also discuss frankly the limitations in potential cost savings compared with existing well-run health care delivery systems.

Like everything else in life, the PSH is an experiment. If this experiment succeeds, our patients will benefit, health care will become more affordable, and our profession will evolve in new directions. If it fails, at least we stepped up to the challenge of improving health care using the resource most completely under our control: ourselves.

**RECUSE NOTE**

Dr. Steven L. Shafer is the Editor-in-Chief for the Journal. This manuscript was handled by Dr. James G. Bovill, Guest Editor-in-Chief, and Dr. Shafer was not involved in any way with the editorial process or decision.

**DISCLOSURES**

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