

# The Evolution of Anesthesiology and Perioperative Medicine

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."

—Leon C. Megginson,  
paraphrase of Charles Darwin

**P**ATIENTS trust us to provide care for them based on years of investment in our development of knowledge and skills. Our patients assume that we continue to study best approaches and therapies and apply this knowledge to them individually. Who should shoulder the responsibility for effective perioperative evaluation and management of the surgical patient? Many factors complicate perioperative evaluation, including same-day admissions, increasing patient age and comorbidity, and cost consciousness, which have put increasing pressure on surgeons, health systems, and anesthesiologists to efficiently assess and manage our patients. The focus is no longer just on safety but also on cost-effective care (value). Economic downturns further complicate perioperative care because patients postpone or eliminate routine screening visits and present for surgery with medical conditions that may delay or even cancel surgery. Several approaches to combat these difficult problems have been proposed, including the development of specific guidelines for testing and consultation before anesthesia and the surgery<sup>1,2</sup> and the development of preoperative assessment clinics that systematically evaluate patients and define the appropriate and necessary evaluations that enhance perioperative care.<sup>3,4</sup>



***"In an era in which subspecialty consultation and excess testing only add to the cost of care without substantially improving patient outcomes, anesthesiologists should take clear responsibility for the preoperative assessment of surgical patients."***

In this issue of ANESTHESIOLOGY, Thilen *et al.*<sup>5</sup> and Phillips *et al.*<sup>6</sup> investigated the variability in the determined need for and value of preoperative medical consultation. Thilen *et al.* assessed the likelihood of preoperative medical consultation based on surgical specialty and patient risk in approximately 13,000 patients undergoing mostly low-risk surgeries. They found a greater likelihood that ophthalmologists, orthopedic surgeons, and urologists would send their patients for preoperative medical consultation compared with general surgeons and, further, that the decision for consultation was inversely related with cardiac risk criteria (patients with lower risk were sent more often for consultation). The Group Health Cooperative from which these data were assembled insures 675,000 participants through a network of 1,400 physicians and 25 medical centers. In addition, outside of its service area, Group Health has a network of 9,000 clinicians and 41 hospitals.\* As the authors acknowledge, a significant limitation of this administrative database study

is the inability to account for "unique referral and practice patterns" across such a large healthcare system. Nevertheless, their result is not surprising to practicing anesthesiologists because it largely represents a surgeon's comfort with assessing general medical issues and an attempt to hopefully make surgery safer and lower the probability of surgical cancellation.

Phillips *et al.*,<sup>6</sup> on the other hand, defined the likelihood of identifying new or unstable medical conditions during preoperative assessment for ophthalmic surgery at an ambulatory center in Florida, where a preanesthesia medical

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Accepted for publication February 1, 2013. The authors are not supported by, nor maintain any financial interest in, any commercial activity that may be associated with the topic of this article.

\* Available at: [http://www.ghc.org/about\\_gh/co-op\\_overview/index.jhtml](http://www.ghc.org/about_gh/co-op_overview/index.jhtml). Accessed January 22, 2013.

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◆ This Editorial View accompanies the following articles: Thilen SR, Bryson CL, Reid RJ, Wijesundera DN, Weaver EM, Treggiari MM: Patterns of preoperative consultation and surgical specialty in an integrated health care system. ANESTHESIOLOGY 2013; 118:1028-37; and Phillips MB, Bendel RE, Crook JE, Diehl NN: Global health implications of preanesthesia medical examination for ophthalmic surgery. ANESTHESIOLOGY 2013; 118:1038-45.

examination is a requirement for surgical centers. In a prospective study of 530 patients, 40% were identified as having new or unstable medical conditions but almost half of these were missed during the preoperative medical consultation and identified subsequently only by a retrospective chart review. Despite an inadequate sample size for making statistical comparisons, the authors hint at a lower detection rate by anesthesiologists compared with internists or family practitioners but then acknowledge that the anesthesiologist may be more focused on “documenting findings relevant to immediate surgical risk.” Indeed, isolated findings such as nonspecific ST and T wave changes or bradycardia strictly defined by the investigators as a heart rate less than 60 may have little relevance in the perioperative management of a patient undergoing ophthalmic surgery. Consistent with previous work on the effectiveness of many preoperative screening tests, Phillips *et al.*<sup>6</sup> also did not identify a difference in outcome with added preoperative consultation.

These studies reveal the difficulty of instituting practice guidelines in the real world, especially in large health systems where there is no single point of contact for the evaluation and management of the perioperative patient.<sup>7</sup> One solution—particularly for the increasingly prevalent integrated health systems—is a preoperative clinic that can consolidate a patient’s medical information and coordinate care. Preoperative clinic visits can improve operating room efficiency,<sup>4</sup> reduce unnecessary tests and consultations by adhering to evidence-based protocols,<sup>8</sup> reduce length of stay,<sup>9</sup> and improve patient satisfaction.<sup>10</sup> In an era in which subspecialty consultation and excess testing only add to the cost of care without substantially improving patient outcomes, anesthesiologists should take clear responsibility for the preoperative assessment of surgical patients. Defining the need for additional consultations and testing that are relevant to the surgical setting allows for more cost-effective management, whereas implementation of standardized protocols may improve outcomes for our patients. Standardized practice guidelines cause many physicians discomfort because they feel it limits their ability to differentiate or personalize the care of their complex patients. The opposite is most likely true. The ability to consolidate medical information and apply standardized protocols to guide additional testing and consultation streamlines the process and frees the anesthesiologists, surgeons, and other consultants to more effectively manage the patients with the greatest needs.

Thilen *et al.* and Phillips *et al.* represent strikingly different perspectives of the preoperative evaluation process. Phillips *et al.* also revealed that although preoperative testing did not, in most cases, change the perioperative management, the information gathered was important in the long-term care of the patient. Although we applaud the focus on long-term patient outcomes, we share the concerns expressed by Thilen *et al.* that additional testing and consultation without a clear focus will lead to additional costs that are not proven to substantially enhance the overall health of the population

or the care of the patient, especially as related to perioperative care. If clear guidelines can be implemented, then the preoperative assessment can be appropriately designed, delays prevented, surgery completed, and outcomes improved. In other cases in which diagnostic findings do not require further presurgical assessment or intervention but instead define long-term risk, this information should be passed forward with electronic health records or other mechanisms to allow the timely yet appropriate care of the patient.

Regardless of politics, legislation, or policy, health care in the United States is rapidly becoming a value-based economy in a manner not seen in over six decades. In a value-based economy, value is defined by a unique and differentiating quality. Critical questions will need to be asked and answered such as: can specialists justify higher marginal costs with higher marginal quality? Will the specialists shift up the quality axis or down the cost axis or both? How we respond will shape our specialty. Data-driven evidence will build perception and realities of best-practice decisions and policy. Only by collecting, sharing, and acting on outcomes data through comparative effectiveness research can meaningful assessment and comparison be possible.

The future of anesthesiology and perioperative medicine depends on establishing and maintaining a unique and differentiating quality that contributes positive value to our patients, surgical colleagues, and health system administrators who are all also responsible for seeking value. To do this, we must push the leading edge in education, research, and clinical innovation. Our value will depend on our ability to accept the challenge to differentiate ourselves from others. We face a time in health care of not only great change but also great opportunity. One such opportunity is the preoperative evaluation of our patients.

**Mark F. Newman, M.D., Joseph P. Mathew, M.D., M.H.Sc., Solomon Aronson, M.D., M.B.A., F.A.C.C., F.C.C.P., F.A.H.A., F.A.S.E.,** Department of Anesthesiology, Duke University Medical Center, Durham, North Carolina. newma005@mc.duke.edu

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