Leading Departmental Change to Advance Perioperative Quality

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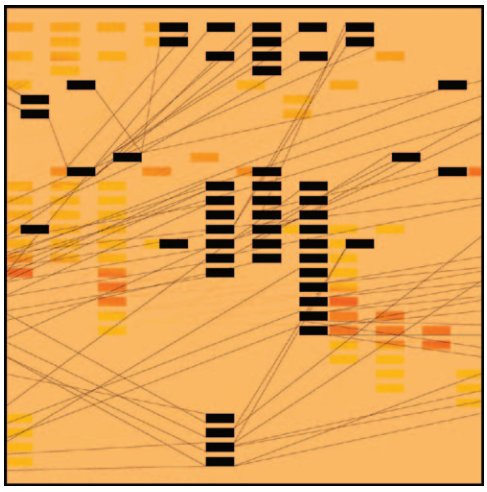
Editor's Note: This is the sixth in a series of six editorials on the changing definitions of safety across the perioperative period and how anesthesiologists can participate in and lead the transformation of health care with focus on patient value.

HEALTHCARE reform creates an unprecedented opportunity for anesthesiology departments and practice groups to advance quality in perioperative care. Payment reform and the move toward accountable care organizations and other integrated delivery systems enable a renewed focus on improved patient outcomes and interdisciplinary collaboration to achieve high-value care that is safe, effective, patient-centered, timely, efficient, and equitable.[1,2] Anesthesiology is well positioned to lead perioperative transformation toward these aims, building on the profession's historic achievements in reducing mortality through improved monitoring, safer drugs, simulation-based crisis training, technological inventions, and approaches that consider both targeted practice and culture such as those that have reduced central line–associated bloodstream infections.[3,4] Rovenstine lecturers and other anesthesia leaders have ably pointed to future opportunities by capitalizing on remarkable innovations, envisioning new models of care such as the perioperative surgical home,[3,5–8] and viewing anesthesiologists as "medical shepherds of patient safety through the perioperative period."[9]



"By creating an interdepartmental infrastructure that enables organizational learning, anesthesia departments can … rapidly test, implement, and sustain fresh ideas … and thrive in a rapidly changing healthcare environment."

However, few empirical studies provide guidance on how departments and practice groups might test or implement these innovations in a practical way and at the sustainable organizational or system level that will be needed under reforms such as accountable care organizations and bundled payment arrangements. Improvement efforts in health care have been focused largely on discrete projects but often not on system-level change, different sites vary substantially in the levels of success that they are able to achieve despite using similar improvement processes, and factors that reliably predict favorable improvement outcomes remain elusive. For example, success factors for the "Matching Michigan" central-line infection initiative in the United Kingdom appear to be different from those of the original "Michigan Keystone" project.[10]

Establishing a robust infrastructure to support systems thinking and organizational learning may be a helpful but easily overlooked element in undertaking improvement efforts.[1,11–17] In fact, in a landmark paper nearly 50 yr ago, Donabedian pointed out the need to consider not only processes but also structure (*e.g.*, setting, administrative structure, and operations) in understanding achievement of healthcare outcomes.[18] The Institute of Medicine recommends a "learning healthcare system" to attain best care at lower cost.[17] Today's management leaders concur, cautioning that overestimation of organizational capabilities is a prime mistake to avoid in implementing accountable care organizations.[19]

A research-based model of the relationships between organizational learning and performance outcomes (fig. 1)[11,15] provides guidance in establishing both infrastructure and processes for improvement. *First, leadership that reinforces learning* requires inviting input, listening attentively, responding appropriately, and providing the time, resources, and venues needed to systematically address challenges and reflect on ways to constantly improve performance. *Second*, a *supportive learning environment* with psychological safety is essential. In such an environment, department and practice group members, as well as all members of the perioperative team, find it easy to speak up, talk about problems, and share rather than hoard information.

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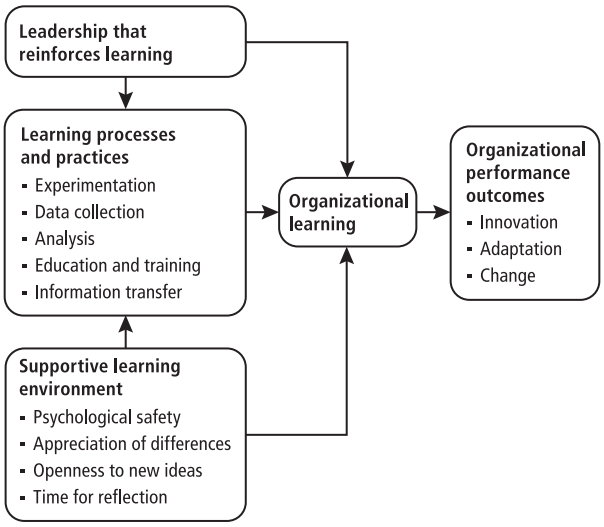

Fig. 1. Model for organizational learning and performance. Adapted and reprinted, with permission, from Garvin DA, Edmondson AC, Gino F: Is yours a learning organization? Harv Bus Rev 2008; 86:109–16, 134; copyright© 2008 by Harvard Business Publishing, all rights reserved; and from Singer SJ, Moore SC, Meterko M, Williams S: Development of a short-form Learning Organization Survey: The LOS-27. Med Care Res Rev 2012; 69:432–59; copyright© 2012 by Sage Publishing. Adaptations are themselves works protected by copyright. So in order to publish this adaptation, authorization must be obtained both from the owners of the copyrights in the original works and from the owner of copyright in the translation or adaptation.

Differences of opinion are welcome, people value new ideas, and the department provides structure and time to invest in improvement. Engaged, empowered patients and families are vital members of the continuously learning care system.[17] *Third*, these leadership and learning environment characteristics contribute to the department's ability to put in place *effective, concrete learning processes and practices*. These processes include trying out new ideas; developing a robust measurement and analysis system; carrying out ongoing training; and providing forums to review results, celebrate successes, and transfer information and new practices internally and externally.

In 2010, for example, our anesthesia department used these three building blocks to establish an infrastructure called Partnerships for Perioperative Performance Excellence (P^{3}E) that serves both internal and interdepartmental aspirations. By pushing back the operating room start time by 30 min each Tuesday, anesthesiologists, surgeons, nurses, and others gain protected time at the start of the day once each week to advance quality and outcomes for patients, to accelerate learning and innovation, and to foster mutual joy in work.[20] This P^{3}E platform simultaneously supports: interdisciplinary chartered teams that meet weekly for 90 days to achieve specified goals; joint anesthesia-surgery division meetings; and anesthesia faculty development series on leadership, scholarship, learning and teaching, and clinical innovation. Mindful of Kotter's[21] advice on leading change, we approached the *leadership that reinforces learning* building block by engaging a steering committee or "guiding coalition" comprised of chiefs and senior leaders in anesthesia, surgery, nursing, orthopedics, and obstetrics and gynecology that began by creating "short-term wins." This group endorses and actively supports the interdisciplinary improvement teams, providing a steering committee sponsor for each team who ensures that barriers to success are managed at a high level. Within the anesthesia department, leadership includes an advisory council of faculty selected by their peers, input from vice chairs and division directors, and opportunities for staff to colead interdisciplinary teams. Leaders listen and learn from staff, a Patient and Family Advisory Council, and patients who volunteer to serve as team consultants. Recognizing the increased need for leadership development in the environment of healthcare reform, we created a pilot Leadership in Anesthesiology course with Massachusetts Institute of Technology's Sloan School of Management faculty for seven regional anesthesia departments focused on organizational function, systems learning, and change management. Departmental leaders draw on frameworks and tools from the balanced scorecard[22,23] and Baldrige Performance Excellence Program[24] to align strategy and goals internally and with the medical center and its affiliates,[25] to balance focus on patients and other stakeholders, and to integrate measurement, operations, and results.

Initial resistance to untried approaches can be expected at the outset. However, by making all participation voluntary, soliciting and acting on ideas for improvement from the front line, reinforcing a climate of learning rather than blame, and providing quarterly sessions where chartered teams and division leaders discuss their approaches and celebrate results, we strive to create a *supportive learning environment* through P^{3}E. An "all teach, all learn" philosophy, periodic needs assessments, anonymous surveys, and an online "Ask the Chief" Web site also support this building block.

Leadership and the *learning environment* support the third P^{3}E building block, *learning processes and practices*—the vital process of actually doing the work in iterative manner that embeds learning in everyday practice. Each chartered team is coled by an anesthesiologist, a nurse, and a surgeon, and is supported by a trained facilitator. The steering committee sets the team goal (chosen from proposals from front-line staff) and chooses the tripartite team leaders, these team leaders select members to include relevant expertise and stakeholders from across the institution, and team members refine and focus the aims on achievable and meaningful outcomes for the 90-day cycle. Teams experiment with potential solutions using common quality improvement tools. To spark curiosity and innovation, a discovery subgroup from each team benchmarks another site. In parallel to the work done by chartered teams, clinical divisions set and align annual clinical and education targets as well as joint goals with their respective surgical colleagues.

In the first 3 years, the P^{3}E infrastructure has cultivated leadership and enabled collaborative process improvements in quality and safety, efficiency, and patient and family experience, all key goals in healthcare reform. More than half of our 71-member clinical faculty have held new leadership

roles. To date, among 400 chartered team members, 37% have been nurses, 25% anesthesiologists, 23% surgeons, and 16% individuals from other specialties. Examples of results achieved by the first 26 teams include implementation of best practice guidelines for perioperative thoracoabdominal aneurysm management, design and implementation of perioperative computerized physician order entry, creation of monthly simulation-based team training, reduction in turnover time for robotic cases from 61 to 48 min with reduced instruments opened by 53%, reorganization of preoperative patient flow with resultant elimination of 1,200 wasted annual miles of staff walking, and 13 percentage point improvements in on-time case start rates. We attribute these advances not to P^3E specifically but to the establishment of an improvement infrastructure that is adapted to local context and includes evidence-based elements capable of supporting learning and improvement.

Although departments struggle with means to "create culture" to facilitate improvement, we find instead that establishing infrastructure and systematic processes that support interdisciplinary learning and improvement engenders an increasingly receptive culture. Regardless of what quality goal or practice model a department, practice group, or hospital envisions to prepare for and lead reform efforts, a solid platform to support learning and improvement is invaluable. As one anesthesiologist noted, "Instead of pointing fingers at each other, we are sitting down and saying, 'We can figure out how to improve this together.' It's a mindshift."

In summary, the evolving healthcare environment presents anesthesia departments and practice groups with broadened opportunities to collaborate, integrate care, and lead in making a positive difference clinically and institutionally. By creating an interdepartmental infrastructure that enables organizational learning, anesthesia departments can spearhead efforts to rapidly test, implement, and sustain fresh ideas, accelerate the pace of improvements that matter to patients, and foster the agility needed to contribute and thrive in a rapidly changing healthcare environment.

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Competing Interests

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References

1. Song Z, Lee TH: The era of delivery system reform begins. JAMA 2013; 309:35–6
2. Institute of Medicine: Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC, National Academy Press, 2001
3. Tremper KK: Anesthesiology: From patient safety to population outcomes: The 49th annual Rovenstine Lecture. Anesthesiology 2011; 114:755–70
4. Pronovost PJ, Marsteller JA, Goeschel CA: Preventing bloodstream infections: A measurable national success story in quality improvement. Health Aff (Millwood) 2011; 30:628–34
5. Warner MA: Who better than anesthesiologists? The 44th Annual Rovenstine Lecture. Anesthesiology 2006; 104:1094–101
6. Miller RD: The pursuit of excellence: The 47th annual Rovenstine Lecture. Anesthesiology 2009; 110:714–20
7. Pronovost PJ: We need leaders: The 48th Annual Rovenstine Lecture. Anesthesiology 2010; 112:779–85
8. Kapur PA: Leading into the future: The 50th annual Rovenstine Lecture. Anesthesiology 2012; 116:758–67
9. Eisenach JC: Patient safety. Anesthesiology 2013; 119:745–6
10. Dixon-Woods M, Leslie M, Tarrant C, Bion J: Explaining Matching Michigan: An ethnographic study of a patient safety program. Implement Sci 2013; 8:70
11. Garvin DA, Edmondson AC, Gino F: Is yours a learning organization? Harv Bus Rev 2008; 86:109–16, 134
12. Edmondson AC: The competitive imperative of learning. Harv Bus Rev 2008; 86:60–7, 160
13. Bohmer RM, Lee TH: The shifting mission of health care delivery organizations. N Engl J Med 2009; 361:551–3
14. Fisher ES, Shortell SM: Accountable care organizations: Accountable for what, to whom, and how. JAMA 2010; 304:1715–6
15. Singer SJ, Moore SC, Meterko M, Williams S: Development of a short-form Learning Organization Survey: The LOS-27. Med Care Res Rev 2012; 69:432–59
16. Shekelle PG, Pronovost PJ, Wachter RM, McDonald KM, Schoelles K, Dy SM, Shojania K, Reston JT, Adams AS, Angood PB, Bates DW, Bickman L, Carayon P, Donaldson L, Duan N, Farley DO, Greenhalgh T, Haughom JL, Lake E, Lilford R, Lohr KN, Meyer GS, Miller MR, Neuhauser DV, Ryan G, Saint S, Shortell SM, Stevens DP, Walshe K: The top patient safety strategies that can be encouraged for adoption now. Ann Intern Med 2013; 158(5 Pt 2):365–8
17. Institute of Medicine: Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. Washington, DC, National Academies Press, 2013
18. Singer S, Shortell SM: Implementing accountable care organizations: Ten potential mistakes and how to learn from them. JAMA 2011; 306:758–9
19. Donabedian A: Evaluating the quality of medical care. 1966. Milbank Q 2005; 83:691–729
20. Muret-Wagstaff S, Simon BA: Faculty Hour: A model for interdisciplinary quality improvement in the perioperative setting, The SAGES Manual of Quality, Outcomes and Patient Safety. Edited by Tichansky DS, Morton J, Jones DB. New York, Springer, 2012, pp 85–92
21. Kotter JP: Leading Change. Boston, Harvard Business School Press, 1996
22. Kaplan RS, Norton DP: The Balanced Scorecard: Translating Strategy into Action. Boston, Harvard Business School Press, 1996
23. Kaplan RS, Norton DP: Strategy Maps: Converting Intangible Assets into Tangible Outcomes. Boston, Harvard Business School Press, 2004
24. Baldrige Performance Excellence Program: 2013–2014 Health Care Criteria for Performance Excellence. Gaithersburg, National Institute of Standards and Technology, 2013
25. Fisher ES, Shortell SM, Kreindler SA, Van Citters AD, Larson BK: A framework for evaluating the formation, implementation, and performance of accountable care organizations. Health Aff (Millwood) 2012; 31:2368–78