

National Performance Data Registries

Preparing for the Perfect Storm

IN October 1991, a series of mundane weather fronts combined in the Maritimes southeast of Nova Scotia to form a monstrous anomaly that the National Weather Service termed the “perfect storm.” In 2000, *The Perfect Storm*, a movie adaptation of Sebastian Junger’s book of the same name, chronicled the perilous course of the swordfishing boat *Andrea Gail* as it unrealistically chose to challenge this perfect storm in an attempt to avoid devastating financial losses. The term “perfect storm” is now defined by Merriam-Webster’s dictionary as a critical or disastrous situation created by a powerful concurrence of factors.* Partial successes, costly data collection, inadequate risk adjustment, and a failing health-care system represent some of the concurrent factors leading to a perfect storm of centralized performance data registries. Like the crew of the *Andrea Gail*, anesthesiologists are being forced to sail into this storm to avoid financial losses.

The Veterans’ Administration (VA) National Surgical Quality Improvement Project (NSQIP) developed and validated separate risk adjustment models for 30-day morbidity and 30-day mortality after major surgery in eight surgical subspecialties and for all operations combined. In the VA NSQIP’s first 10 yr, the 30-day postoperative mortality for major surgery decreased from 3.1% to 2.2%. Even more



“Partial successes, costly data collection, inadequate risk adjustment, and a failing health-care system represent some of the concurrent factors leading to a perfect storm of centralized performance data registries.”

cost, but it is unclear whether continued costs can be justified. The VA network has shown little improvement in morbidity and mortality lately, and the costs remain the same. Compared with 15 academic centers in the private sector, the VA showed comparable morbidity and mortality rates, but that was after the VA had maximized their improvement.² Unlike VA NSQIP, the American College of Surgeons NSQIP is made up of individually participating hospitals, each looking for its own return on investment; but the best-performing hospitals may be unable to justify the costs of participation. Similarly, despite initial successes, the Ameri-

dramatically, the number of patients undergoing major surgery who experienced 1 or more of 20 predefined postoperative complications decreased from 17.8% to 9.8%, whereas the median length of stay declined by 5 days.¹ With this obvious success, the American College of Surgeons moved NSQIP into the private sector with the hope that similar success in non-VA hospitals would give it market value and make it a worthwhile investment for hospitals.

Unfortunately, the science and technology for health outcomes data collection and risk adjustment are primitive, and the costs of both remain high. In the VA NSQIP, the cost of manual data collection and off-site data analysis has been quoted at approximately \$38 per case. The VA expands its database by approximately 100,000 cases per year, so their first 10-yr cost was approximately \$38 million. The reduction in morbidity and mortality within the VA system may have justified this initial

Image: ©istockphoto.com.

Accepted for publication December 28, 2011. The author is not supported by, nor maintains any financial interest in, any commercial activity that may be associated with the topic of this article.

* Available at: <http://www.merriam-webster.com/dictionary/perfect%20storm>. Accessed May 5, 2012.

Copyright © 2012, the American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins. Anesthesiology 2012; 117:449-50

This editorial is part of an editorial series on the emerging role of data registries in advancing clinically integrated medical practice.

can Academy of Orthopedic Surgeons' Musculoskeletal Outcomes Data Evaluation and Management System, American Academy of Ophthalmology's National Eyecare Outcomes Network, and the American Urological Association's Documented Outcomes Collection System all fell to financial pressure despite well-designed databases, valid measures, and reasonable data collection tools.

The energy to sustain national healthcare performance database registries likely will come from the failing healthcare system itself. Health care accounts for approximately 16% of the gross national product, or approximately \$2 trillion annually, and the federal government continues to pay 30–40% of the country's healthcare bill. In response, the government has made several attempts to decrease costs. For example, limiting total payment for services through unit pricing based on diagnostically related groups, regardless of how long it took to treat that condition or the resources expended in doing so, resulted in lasting reductions in length of stay and services used in hospitals across the United States. The federal government sees healthcare performance data as another opportunity to limit payment and shift the cost of health care to hospitals and providers. The Department of Health and Human Services, authorized by the Affordable Care Act, has launched a new initiative called the Hospital Value-Based Purchasing Program, which will reimburse inpatient acute care services based on care quality, not just the quantity of the services provided. The federal government reports that value-based purchasing for Medicare alone has the potential to save \$10 billion over the next 3 yr.³ Similarly, the Physicians Quality Reporting System has begun to transition from a voluntary reporting system with positive payment incentives to a mandatory system with payment penalties for not submitting performance data to this centralized performance data registry. This will make it easy for the federal government to evolve to value-based purchasing of individual provider services with similar potential to shift cost away from payers. So, one can see how public reporting of poorly risk-adjusted outcomes and cost reductions for payers can lead to perilous conditions ahead.

Like the crew of the *Andrea Gail*, anesthesiologists think that waiting out the storm could lead to financial losses, but we must consider the risks of pushing forward. These risks include bearing the costs of data collection and analyses, and reimbursement based on inadequate risk adjustment models and invalid measures. Anesthesiologists are going to need to shore up our vessel if we plan to survive the conditions ahead. Anesthesiologists should learn from successful specialty society performance database registries, such as the Society of Thoracic Surgeons' National Database and the American College of Surgeons' National Trauma Data Bank. These data registries have survived because they have shifted the

cost of participation toward hospitals and away from the individual healthcare providers. This has been done by effectively lobbying for added hospital value in registry participation. For example, hospitals often can satisfy mandatory state reporting requirements for cardiac surgery performance data by participating in the Society of Thoracic Surgeons' National Database,⁴ and reporting trauma data to the American College of Surgeons' National Trauma Data Bank is required for a hospital seeking to be a Designated Trauma Center. Anesthesiologists are also in the unique position of being able to apply technology to decrease the cost of data collection through anesthesia information management systems. Unfortunately, the Electronic Health Records Incentive Program created under the American Recovery and Reinvestment Act threatens the value of anesthesia information management systems from a hospital perspective. That is because current anesthesia information management systems will not be able to meet Stage 1 meaningful use requirements for incentive payments to hospitals or eligible professionals, and this must change. Finally, the diversity of our patient populations makes risk adjustment more difficult and a necessary future focus. Process measures may not need to be risk-adjusted, but they require strong evidence-based recommendations and constant updates. Even with strong evidence suggesting the efficacy of specific processes under controlled conditions, one cannot judge effectiveness with process measures alone. In summary, performance data aimed at local quality management have produced a good catch, but it will take more to carry us safely through the rough conditions ahead. To use another movie analogy, "We're going to need a bigger boat."

Robert S. Lagasse, M.D., Department of Anesthesiology, Yale University Medical School, New Haven, Connecticut. boblagasse@yahoo.com

References

1. Khuri SF: The comparative assessment and improvement of quality of surgical care in the Department of Veterans Affairs. *Arch Surg* 2002; 137:20–7
2. Henderson WG, Khuri SF, Mosca C, Fink AF, Hutter MM, Neumayer LA: Comparison of risk-adjusted 30-day postoperative mortality and morbidity in Department of Veterans Affairs hospitals and selected university medical centers: General surgical operations in men. *J Am Coll Surg* 2007; 204:1103–14
3. CMS Hospital Pay-for-Performance Workgroup. U.S. Department of Health and Human Services Medicare Hospital Value-Based Purchasing Plan Development-1st Public Listening Session, 2007, January 17
4. Jacobs JP, Edwards FH, Shahian DM, Haan CK, Puskas JD, Morales DL, Gammie JS, Sanchez JA, Brennan JM, O'Brien SM, Dokholyan RS, Hammill BG, Curtis LH, Peterson ED, Badhwar V, George KM, Mayer JE Jr, Chitwood WR Jr, Murray GF, Grover FL: Successful linking of the Society of Thoracic Surgeons adult cardiac surgery database to Centers for Medicare and Medicaid Services Medicare data. *Ann Thorac Surg* 2010; 90:1065–6