

# Data Exchange in the Information Age: Creation of the Anesthesia Quality Institute

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The Anesthesia Quality Institute (AQI), a non-profit 501(c)3 corporation formed with seed money from the American Society of Anesthesiologists, was constituted to serve as a clearing house of information for the specialty. The purpose is to leverage the tools and connectivity of the Information Age to improve the safety and efficiency of anesthesia practice. Unlike the Anesthesia Patient Safety Foundation (APSF), the Foundation for Anesthesia Education and Research (FAER) or the data projects of the subspecialty societies, the AQI is tasked with collection and dissemination of data across the breadth of anesthesia practice in the United States, including groups from the largest universities to the smallest private practices. This will be accomplished by creation and administration of the National Anesthesia Clinical Outcomes Registry (NACOR).

Unlike the National Surgical Quality Improvement Project (NSQIP) of the American College of Surgeons, the NACOR will be broadly inclusive in pursuit of anesthesia data. NSQIP conducts focused reviews and abstraction of randomly selected cases from participating institutions, at considerable cost in time and manpower. This has made it impractical for all but large centers to support. While the data gathered is useful, it does not represent surgical practice at the ground level. NACOR, in contrast, will be based on the continuous, passive capture of digitized information from anesthesia billing systems, quality management programs, hospital information technology platforms, and, most important, Anesthesia Information Management Systems (AIMS), which will represent true clinical data. Working through vendors of these products, NACOR will build a database that begins with simple practice and case demographic information and then works iteratively “upwards” towards more sophisticated clinical outcome and risk adjustment information. In this way it is intended to parallel—and to some degree influence—the “digitization” of medicine.

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At the level of the individual practitioner, the AQI will solve a number of pressing problems. It will provide a common data collection and reporting format that will meet the needs of MOCA recertification, the Surgical Care Improvement Project, hospital quality management efforts (including survey by The Joint Commission), participation in Federal data collections, and subspecialty registry projects organized by the Society for Cardiovascular Anesthesia, the Society for Pediatric Anesthesia, the Society for Obstetric Anesthesia and Perinatology, SAMBA, and others. The data itself will provide important benchmarking for both quality management and business applications, and participation in the AQI will open an educational channel that will be used to foster adoption of best practices across the specialty. For vendors of anesthesia information technology, the AQI will help to standardize formats and definitions and will encourage the dissemination of electronic platforms for collecting and reporting data.

At the national level, the AQI will provide demographic and “denominator” data to inform ASA leadership efforts and provide context for the more focused efforts of the APSE, FAER, and the Closed Claims project. Data in hand, it will be possible to influence important discussions in the Center for Medicare and Medicaid Services on the most appropriate performance standards for perioperative care. In an era of steadily increasing enthusiasm (and Federal pressure) for comparative effectiveness research and adoption of electronic healthcare records, the AQI and the NACOR will provide credibility to the ASA in its efforts to guide the debate towards sensible standards with the greatest chance of providing benefit to our patients. Linkage with the Surgical Quality Alliance, a similar project just launched by a consortium of surgical societies, and the data efforts of the Association of Operating Room Nurses will paint a picture of the perioperative experience that includes both detailed process data and long-term functional outcomes.

As a research tool, the NACOR will offer academic anesthesiologists a new and different resource for understanding clinical practice. In much the way that the National Trauma Data Bank and the Society for Thoracic Surgeons database have fostered an increased understanding of outcomes in the surgical specialties, the NACOR will provide a global look at anesthesia over time. Indeed, it is a strategy of the AQI to seek financial support through grants and contracts from federal agencies and private foundations anxious to build information technology infrastructure nationwide. This will lead to a series of hypothesis-driven studies leveraging the data capture mechanics of NACOR to produce increased understanding of controversial areas of anesthesia practice. Examples include the comparative effectiveness of pain procedures, the benefit of monitoring standards in outpatient anesthesia and the appropriate threshold for blood transfusion during trauma and emergency surgeries. As a resource for

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contributing anesthesiologists and their practices, the NACOR will become the largest and most important “data mine” in our specialty, with the potential to contribute in part or whole to dozens of research projects in the next decade.

Although still in infancy, the AQI is growing rapidly. The technology for collecting and warehousing data is in place, alpha test sites are being recruited, data bridges are under construction from half a dozen IT vendors, and the first case specific data began accumulating in January 2010. The first reports of NACOR data will appear in July, and the first AQI Research Fellowship will be offered in January 2011. Change comes quickly in the Information Age, and knowledge is power. This is the vision of the AQI: Information. Knowledge. Change. The power to improve the care of our patients.

More information about the AQI and NACOR, including a contact address, is available through the ASA Web Site: <http://www.asahq.org>, then click on the “Anesthesia Quality Institute” button on the left navigation banner.

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