

Breaking Out of the Silo: Sharing Perioperative Data With

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Anesthesia groups accumulate a wealth of data that is often used only for billing purposes and medical documentation.

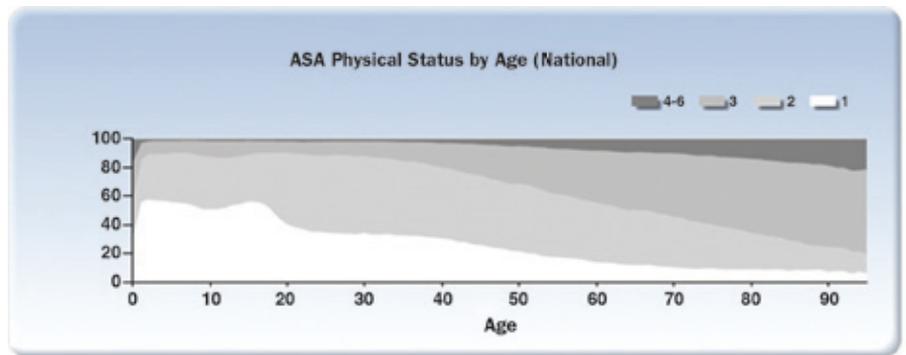
Those groups that have adopted anesthesia information management systems (AIMS) have detailed clinical data, yet rarely use this data for purposes beyond printing an anesthesia record. A promised advantage of electronic medical records is the ability to aggregate data in a nationwide effort to transform anesthesia practice and safety. This article will discuss the opportunities for anesthesiology groups to share data, the benefits of data sharing, and the legal and technical work that is required to share data with a registry.

Existing Data Registries

There are multiple efforts under way to aggregate electronic health information at regional and national levels. Two projects with national scope that are specific to U.S. anesthesiology are the Anesthesia Quality Institute (AQI) and the Multicenter Perioperative Outcomes Group (MPOG). AQI was founded by ASA to develop a case registry for improving patient care. The registry, known as the National Anesthesia Clinical Outcomes Registry (NACOR), is accumulating data from more than 175 anesthesia groups and has over 5 million anesthetics registered currently.



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Sample of national aggregate data from the AQI Registry

AQI does not have a minimum data set requirement. Even if your group only has billing data in electronic form, that is enough to start sharing information with the registry. AQI provides reports that compare your group to the registry in the areas of provider demographics, patient demographics, case data and self-reported outcomes. AQI also plans to assist ASA members in meeting Maintenance of Certification in Anesthesiology (MOCA™) obligations by collecting case information and providing a report that compares the ASA member's practice to other ASA member anesthesiologists.

MPOG has a different set of goals that are complementary to the AQI mission. MPOG collects detailed clinical data from large institutions that use AIMS for most anesthetic cases. Each study using MPOG data focuses on a specific clinical question. By storing a wide array of perioperative data, MPOG members plan to generate multi-institution studies associating perioperative markers with patient outcomes. The hope is that these large retrospective studies will provide a larger evidence base for anesthesia practice and direct future prospective studies.

Why Participate in a Registry?

The benefits of participation in a registry may not be immediately apparent. Many groups already use analytics to monitor their practice mix and billing efficiency. The major benefits arise from sharing data with other entities and with being able to view your group's data in context. Anesthesiologists currently participate in the Centers for Medicare & Medicaid

National Organizations

Services' Physician Quality Reporting System. ASA is advocating for anesthesiologists to participate in stage 2 of the Medicare and Medicaid Electronic Health Record (EHR) incentive programs. Taking the steps to share your data with an anesthesia registry can facilitate your group's ability to qualify for current and future government and payer incentives.

Is It Difficult to Participate in a Registry?

Both AQI and MPOG have made significant technical efforts to enable anesthesia groups to use leading billing vendors and AIMS to share data. If your group's billing vendor is on the AQI Preferred Vendors list, that means the vendor has already created an extract that can be sent to the AQI on your group's behalf. Similarly, if your AIMS is on the MPOG list of supported systems, a portion of the interface for sharing data has already been created.

Data elements that could be shared include the following:

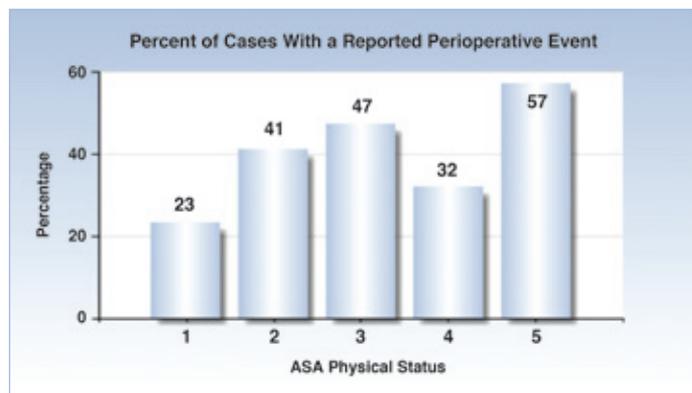
- Administrative and demographic
- Preanesthetic evaluation
- Intraoperative, including physiological parameters
- Postoperative, including perioperative complications
- Laboratory results.

Initiating the Effort

To maximize your group's benefit from participating in a registry, we suggest devising a project plan that includes the following broad steps:

Assess Sources: Begin with your anesthetic administrative (billing) and clinical data and then determine which other institutional sources are available (e.g., EMR, data warehouse or hospital administrative system). Designate a person to champion this process.

Map Concepts: Even if you use a billing or AIMS vendor that is supported by the registry, you will need to map (or "crosswalk") the concepts in your local records to the concepts in the registry. For example, if your records contain event times for patient arrival, patient interview and entering the O.R., you will need to pick the element that most appropriately



Sample of national aggregate data from the AQI Registry

corresponds to "anesthesia start." These decisions need to be made only once for each type of anesthesia case. AQI allows free text for many concepts, reducing the number of concepts that must be mapped.

Create Longitudinal Case Record: Using the sources above, create a single list of data that will be extracted for each case. For example, this list may include birth date and gender from administrative records, current medications from the EMR, intraoperative medications from the AIMS and postoperative complications from a quality database.

Determine Scope of Work: With the information gathered above, you can determine the amount of technical work required. The actual workforce hours required per source can be as little as 10 and as many as 100, depending on how much work has already been done for similar tasks in the past. Each source should return data in a text or spreadsheet format. The final step is to combine the sources into a single record and share that record with the registry. The overall software development work required for an anesthesia group with an AIMS will be at least 80-160 hours (two to four weeks by a single programmer). This will depend upon the skill of the software developers and the complexity of the data. There may be hardware requirements as well, depending upon the solution chosen.

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Your group will also need to assign a resource for ongoing maintenance of the system. Maintenance includes keeping the provider and facility list current, adding or modifying data fields, troubleshooting hardware and software issues and running reports. As a general rule, annual maintenance will cost approximately 15 percent of the initial investment.

Regulatory and Legal Issues

Several rules under the Health Insurance Portability and Accountability Act of 1996 (HIPAA) are pertinent when planning to share data with a registry. The HIPAA Privacy Rule protects individually identifiable health information (also known as “protected health information,” or “PHI”) of a demographic, clinical or financial nature that is generated or maintained in an electronic format. The AQI’s registry does not retain any direct patient identifiers such as name or medical record number. AQI does retain a “limited data set,” including date of birth and ZIP code.

“The AQI is an authorized Patient Safety Organization (PSO). Providers can send patient safety information to PSOs with the understanding that the data are privileged and confidential. Patient safety activities are considered ‘health care operations’ under the HIPAA Privacy Rule. This means that providers are not required to obtain patient authorizations to share patient safety information containing PHI with a PSO.”

Under the Privacy Rule, health care providers are required to enter into contracts with business associates that ensure the protection of PHI. These agreements, known as business associate agreements (BAA), do not oblige providers to monitor their business associates’ privacy practices. The agreements also protect providers from liability for the actions of their associates. However, providers are obligated to report a material breach or violation of a BAA and to take all reasonable steps to cure the breach. If the provider is unable to resolve the breach, it must terminate the BAA or advise authorities why termination is not possible.

The HIPAA Security Rule sets national standards for protecting the confidentiality, integrity and availability of electronic PHI. This rule would be applicable, for example, to the policy, procedure and risk assessment processes providers set out to govern the collection, storage and transmission of electronic PHI.

In addition to HIPAA, the Patient Safety and Quality Improvement Act was established under the Agency for Healthcare Research and Quality (AHRQ) as a voluntary reporting system to “enhance the data available to assess and resolve patient safety and health care quality issues.” The Act provides federal privilege and confidentiality protections for patient safety information (“patient safety work product”) that is collected and created for this purpose. The act was written with these protections in order to encourage provider participation.

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As always, providers should review all activities involving PHI and business associates with qualified legal experts to ensure compliance with all federal and local laws and regulations.

Conclusion

Significant benefits of sharing your perioperative data with an anesthesia registry are soon to come. The regulatory and technical hurdles have been identified and in many cases minimized through the work of the current registries and their contributors. We have outlined a project plan that individual groups could use to project the effort and expense required. Now is the ideal time to break your group’s perioperative data out of the silo.

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Further Reading

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2. Multicenter Perioperative Outcomes Group. <http://mpog.med.umich.edu/>. Accessed June 7, 2012.
3. Patient Safety Organization. Agency for Healthcare Research and Quality. <http://www.pso.ahrq.gov/>. Accessed June 7, 2012.
4. Office for Civil Rights. U.S. Department of Health and Human Services. <http://www.hhs.gov/ocr/>. Accessed June 7, 2012.