

## Quality Management in Your Practice

The goal of quality management (QM) in healthcare is to improve patient outcomes and operational efficiency. An entire industry has arisen devoted to making this simple concept complex, and to frustrating hard-working anesthesiologists. This document provides very basic instructions for creating an anesthesiology QM program. A QM program will help your group take better care of patients, will provide fodder for studying your policies and procedures, will meet your hospital's need for data, will satisfy Joint Commission requirements for Ongoing Professional Practice Evaluation (OPPE) and Focused Professional Practice Evaluation (FPPE), and will facilitate Maintenance of Certification in Anesthesiology (MOCA) for your providers.

A detailed review of the history, theory and practice of QM can be found in the [Manual for Anesthesia Department Organization and Management \(MADOM\)](#), written by the ASA Committee for Quality Management and Departmental Administration. Here is the simple 8-step version:

**Step One:** Designate a physician in your group to lead QM efforts. Successful QM programs depend on a physician champion. This individual should recruit others (a committee) to help with data analysis and peer review, and should seek out the QM nursing personnel in the facilities you serve. These individuals may represent a resource that can be engaged on behalf of your group.

**Step Two:** Establish a list of indicators for your practice. An indicator is any variable that tells you something about your practice, ranging from how many patients die in the OR to how long it takes the hospital to replace a light bulb in the women's locker room. Indicators tell you something about your structure (e.g. how many practitioners, how many ORs), your process (e.g. how many patients get perioperative antibiotics), or your outcomes (e.g. how many patients die) Measuring indicators will enable you to engage in the "quality cycle," which is simple and intuitive:

- Measure what you do
- Make improvements
- Measure again

Appended is a recommended list of indicators. This is only a starting point. You should adjust it based on your local situation and the needs of your group and facility.

**Step Three:** Gather data and enter it in a database. There are commercial products available to assist with this process, but many groups have developed their own electronic tools. The ASA provides samples in the MADOM chapter, and the AQI provides all sorts of recommendations and referrals on its website ([www.aqihq.org](http://www.aqihq.org)). The purpose of the database is to store data over time, and facilitate analysis and reporting.

**Step Four:** Report overall data to your group and to local stakeholders (such as hospital administration). Three concepts are worth noting. First, some data should be reported as *rates*: occurrences per opportunities (post-dural puncture headaches per total neuraxial blocks attempted). Second, data should be presented over time (monthly or quarterly). Data gains value when *trends* can be observed. Third, some data – especially outcomes – are strongly biased by external factors, and should be *risk adjusted* prior to presentation or *benchmarked* to data gathered under similar conditions. As an example of all three concepts, anesthetic mortality in a trauma center (the *rate* of deaths per anesthetic) is presented quarterly (*trended* over time) and either *adjusted* for the patients' severity of injury or *benchmarked* to mortality from other trauma centers.

**Step Five:** Review unusual events. Many complications of anesthesia are rare, and thus not suitable for numeric assessment until numbers get very large. These events should be reviewed and discussed by the QM Physician and Committee. Discussion should focus on what happened and how to prevent it from happening again. The discussion should be documented: Keep notes! When a cluster of events occurs, you should conduct a 'focused review' by a small group of experts tasked to identify common system factors and potential solutions.

**Step Six:** Make improvements. Sometimes quality can be improved by presentation of data or discussion of cases (i.e. provider education). This is true for many rare but serious events, and is the basis for the traditional "Morbidity and Mortality" conference. Public presentation of data can be a mechanism for leveraging peer pressure, such as reporting on compliance with documentation standards. In general, though, most QM activity should be kept 'within the family' and at the level of the practice rather than individual providers. This is because most bad

outcomes arise from problems with the system rather than individual mistakes. Analyzing events either alone or in series should focus on the changes in policy and practice (i.e. your system) that would reduce their occurrence.

Searching the anesthesia literature and the AQI and ASA websites will reveal many suggestions for potential improvement, including guidelines, recommendations and advice for addressing practice issues. Many such documents are listed and summarized in the MADOM and on the aqi website.

**Step Seven:** Remeasure, and automate the process. QM becomes easier over time, because trends in accumulating data make it easy to discern true problems from random variation. Increasing experience increases physician confidence in the process, and the openness and utility of event review. One goal of the QM Physician is to embed the process of measurement and reporting in the fabric of the practice in such a way that data capture and analysis becomes automatic and accepted.

**Step Eight:** Participate in the AQI. Contribution of data to the National Anesthesia Clinical Outcomes Registry (NACOR) entitles a practice to receive quarterly benchmarking reports, making it easy to identify areas of good and bad performance. **AQI membership is open to any anesthesiology practice, anywhere.** NACOR is populated by continuous passive collection of digitized information from participating groups, ranging from simple billing system information to sophisticated electronic hospital records. In addition to aggregated national data and peer-group benchmarking, participation in the AQI is intended to provide ASA members, practice groups, and healthcare facilities with an easy and effective means to meet regulatory requirements for QM and practice assessment. To request more information on joining AQI, [click here](#). Also browse our website at [www.aqihq.org](http://www.aqihq.org) for more information and resources.

#### **Data to Collect**

As an initial target, your QM program should seek the following raw data:

- For each case done:
  - Location (facility)
  - CPT code(s)
  - surgeon
  - anesthesia provider(s)
  - date
  - time (or duration)
  - anesthesia type (general, regional, sedation, combination, etc)
  - ASA class
  - PQRS compliance (yes/no/not applicable for each of three variables)
  - Occurrence of a listed complication (yes/no, and which one)
  - Patient survey data (satisfaction, PONV, pain questions)
- Documentation completed, including QM form (yes/no)
- Number of patient complaints received

Your billing program or hospital electronic record will provide the majority of this data. Talk with your IT support people and/or the vendor about generating the reports you need.

Some data (the patient-focused outcomes) you will have to gather yourselves. There are many ways to accomplish this, but one useful approach is teaming up with the facility's QM person to do it together. This can be a call-back from a PACU nurse at 48 hours post-op, a visit from an anesthesiologist, or even an online survey tool. There are software programs to facilitate capturing these data elements, analyzing them, and reporting the indicators listed above. Some of these resources are available in MADOM, while a list of other (proprietary) solutions is on the AQI website, along with guidance on how to choose one. More information can be obtained directly from AQI Business Analyst Lance Mueller: [l.mueller@asahq.org](mailto:l.mueller@asahq.org).

Once you have the data in hand, you need to put it to work. You do this by turning the raw data into indicators, as described above. Here is our recommended list of indicators for 2011:

## AQI Recommended Indicators (Updated for 2011)

**Your monthly/quarterly/yearly QM Report should include these items:**

### *Business Indicators*

- Cases done
  - By surgical service
  - By anesthesia type
  - By ASA class
  - By location
- Number of providers
  - By type (Physician, Resident, CRNA, AA, etc.)
  - By subspecialty training or group
- Total minutes billed
  - By surgical service
- Top ten cases done, and average duration

### *Process Indicators*

- On-time starting percentage of first cases
  - By service / facility
- Cancellation rate
  - By cause and preventability
- PQRI measure compliance
  - Prophylactic antibiotic administration
  - Adherence to central line bundle
  - Normothermia in the PACU
- Documentation compliance (% of cases with completed QM records)
  - By location / service / provider
- Number of patient complaints

### *Clinical Outcome Indicators*

- Number of cases completed uneventfully
- Occurrence of critical events (by location/service; [definitions](#)):

-Death	-Incorrect patient	-Vascular access complication
-Cardiac arrest	-Medication error	-Pneumothorax
-Perioperative MI	-Unplanned admission	-Infection after regional anesthesia
-Anaphylaxis	-Unplanned ICU admission	-Epidural hematoma
-Malignant hyperthermia	-Intraoperative awareness	-High spinal
-Transfusion reaction	-Unplanned difficult airway	-Postdural puncture headache
-New stroke	-Unplanned reintubation	-Local anesthetic toxicity
-Visual loss	-Dental trauma	-Peripheral neurologic deficit
-Incorrect surgical site	-Perioperative aspiration	

### *Patient Experience Indicators*

- Overall patient satisfaction
  - By Service/facility/patient type
- Rate of postoperative nausea and vomiting
- Adequacy of pain management in the PACU
- Patient complaints
  - By Service/facility/patient type