

QUALITY ASSESSMENT AND IMPROVEMENT - AN OVERVIEW

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Quality assessment and improvement (QA/I) programs are the cornerstone of an organization's efforts to define the quality of its activities, evaluate through measurement the status of achievement of that quality, and initiate improvements in performance. For health care facilities, evaluations of clinical care are multivariate and include such techniques as

- clinician peer review;
- analysis of aggregate outcomes data;
- measurement of important patient care processes; and
- evaluations of the perceptions of patients, families and facility staff.

ORGANIZATIONAL COMPONENTS

A written institutional Plan for Quality Assessment/Improvement is vital to define and guide the assessment process. The Plan should

- be consistent with the vision, mission and values of the organization;
- support hospitalwide efforts to improve patient care quality;
- focus on the important functions of the organization that support inpatient and outpatient care delivery and the structures necessary to ensure optimal performance of those functions;
- clearly define hospital leaders' responsibility and accountability for quality assessment/improvement program oversight; and
- clearly define reporting procedures for quality assessment activities.

To implement a QA/I plan effectively, a clearly defined process process for monitoring and evaluation must be in place for each quality assessment activity. This process should include the following:

1. Developing specific objective measures (indicators) to be evaluated;
2. Specifying the methods for data collection and display;
3. Defining the individuals or groups responsible for data assessment and analysis;
4. Describing the procedures that can be taken to act on opportunities for improvement; and
5. Assessing the effectiveness of the results of actions taken.

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INDICATOR SELECTION

Traditionally, clinical indicators are defined as objective variables used to monitor the quality and/or appropriateness of an important aspect of patient care. They are based upon standards of care or desirable (or undesirable) outcomes. Sometimes referred to as "criteria of care", these measures are frequently derived from the ideal practices recommended by national organizations or specialty societies. Indicators can be event-based, in which a single occurrence is of importance (e.g., unanticipated death, unplanned return to surgery). Alternatively, these measures may be rate-based, for which aggregate information is used, to identify patterns and trends in clinical practice variances which individual case review may not reveal (e.g., clean wound infection rate, complication rates, percent of normal appendices removed at appendectomy). These typical indicators can be used to evaluate the *clinical performance of an individual practitioner* or the *practice of a clinical service*.

DATA COLLECTION AND DISPLAY

An effective quality assessment program requires valid and accurate data collection methods, and this fact should never be underestimated. Data, once collected, should be formatted in an organized manner for ease of analysis. The use of summary values such as mean, median, and mode may be more descriptive by including range and standard deviation. Graphical summaries, such as line, bar, and pie charts, histograms, Pareto diagrams and control charts often provide a visual picture of the data revealing patterns and relationships that may not be recognized by scanning aggregate numbers. Comparative data from earlier reports, other institutions, or the literature may create a context by which the data can be evaluated.

Case Selection for Peer Review

While not often thought of as "data", the identification of specific cases warranting clinical peer review is crucial to a complete QA/I program. As mentioned above, there are several event-based indicators that can be used by clinical services for case selection. It is essential that first level case reviewers possess a level of knowledge to clearly understand the basis of the indicator. For example, if *unanticipated return to surgery* is the indicator, the reviewer should not select cases where surgical staging is to be expected. A second-level review by a physician is generally recommended to validate cases meeting indicators and select cases for peer review where variations in the standard of care may have occurred or when there is a particularly serious adverse outcome. In addition, cases may be selected for their educational value. In many residency programs, house officers themselves are responsible for identifying some types of cases.

A word of caution is in order. It is easy to become overwhelmed with case-based peer review. The second-level physician reviewer must judiciously select cases referred for further peer review, although all cases meeting indicators should become part of the aggregate data base.

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ASSESSMENT

Quality assessment refers to analysis of the management of individual cases (e.g., peer review) as well as evaluation of the trends and patterns of aggregate data. As previously stated, the individual or bodies responsible for reviewing and interpreting data should be specified in the Plan. Assignment of responsibility is often dependent on the data source; e.g. medical staff peer review committees may review individual cases as well as physician-specific data; hospitalwide quality oversight committees would have access to certain types of aggregate data for patterning and trending. Common examples of aggregate statistics reviewed by medical staff committees include process and outcome measures related to the use of blood or blood products, medication monitoring, resource utilization, and surgical data such as appropriateness of procedures and discrepancies between preoperative diagnoses and pathologic findings.

Regardless of whether single cases or aggregate data are reviewed, assessment should clearly indicate the conclusions from review including the significance of the findings. Whenever possible, potential opportunities for improvement should be identified as well as recommendations for addressing them including referral to more appropriate review bodies.

The Morbidity and Mortality Conference

Although a typical Morbidity and Mortality Conference critically reviews certain elements of individual case management, its overall role in QA/I is usually less significant. The M and M conference in a teaching program is primarily an educational instrument whose attendees often include medical students, community physicians, and nonphysicians as well as hospital residents and attending staff. This open forum might prevent the maintenance of confidentiality, thus curtailing critical evaluation of clinician performance. Several cases that include all of a service's complications and adverse outcomes usually are generally considered, and time limits prevent a thorough examination of all cases. Case discussion is collegial and focuses on defining educational issues. Detailed analysis of specific deficiencies or their root causes does not occur, nor is attention directed toward definitive corrective actions and follow up. Even when critical review occurs, no mechanism for determining consensus generally exists. In addition, systems-related factors that may potentially influence outcome might be identified only superficially or ignored altogether. Conference documentation typically is limited to a listing of cases discussed and brief notes about issues emphasized, and there is no mechanism to review or correct this documentation. Notwithstanding the above concerns, the M and M conference is an excellent vehicle to identify cases that require more intensive investigation by a peer review committee.

Benchmarking

It is the authors' opinion that clinical outcome data comparisons between institutions should be viewed with great caution. This process of comparison, known as "external benchmarking", is routinely being used by, among others, governmental agencies, accrediting bodies, health plans, networks of multiple institutions, and employer groups ostensibly to evaluate the quality of care provided to consumers. It is important to recognize that data is just data. Only after careful assessment, can data be converted into meaningful information. It should be remembered that the major benefit of collecting and reviewing clinical information as described in this overview is for *internal* assessment and improvement purposes.

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IMPROVEMENT

Based on the analysis as described above, corrective actions are often required to address identified deficiencies. It is helpful to categorize these deficiencies in order to focus interventional activities; e.g., knowledge deficit, skill deficit, performance deficit, resource-related, system issue, staffing, etc. Decisions for programmatic, educational or individual performance improvement actions should be data driven.

Traditional educational efforts such as special conferences, lecture series, curriculum enhancements, and individual-specific proctoring are generally adequate to address physician knowledge or skill issues. Performance problems may require, in addition to the above, policy enhancements, process improvement efforts or disciplinary action.

There has been an increasing appreciation in recent years of the effect that operational issues can have on the clinician's ability to deliver care. For this reason, medical staff involvement in organizational improvement activities is crucial to satisfactory results.

All interventions should include a mechanism to evaluate their effectiveness and a schedule (follow up) for performing that evaluation.

REPORTING

The results of QA/I activities are communicated to individuals, departments and committees with the responsibility for carrying out corrective actions or overseeing the evaluation of the quality of care under the aegis of the medical staff organization. Effective quality improvement depends on widespread medical staff involvement in decision-making for all aspects of hospital operations affecting patient care. Information from the hospitalwide program may signal performance improvement opportunities or provide suggestions that relate to monitoring and evaluation activities such as identifying new indicators for measurement.

CONCLUSIONS

QA/I programs can play a significant role in driving organizations toward excellence in patient care delivery. Clinicians who participate in QA/I activities will find that they can make a valuable contribution to health care in their community and experience a sense of satisfaction in addition to being recognized at the organizational level.