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Improving quality in the endoscopy unit

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All gastroenterologists and their administrative staff should gain familiarity with the quality improvement process. Demonstration of formal quality improvement efforts is now required for board certification, accreditation, and, in some cases, payer reimbursement. Organizations should embrace their role as the convening, collecting, oversight body for unit-wide and most endoscopist-specific quality initiatives. Quality improvement skills should be developed among facility staff to ensure institutional capabilities and continuity in quality improvement. Ultimately, such efforts benefit both our patients and our professional endeavors.

The Institute of Medicine defined quality in health care along 3 parameters: (1) safety, or freedom from accidental injury, (2) practice consistent with present medical knowledge, or use of evidence-based medicine, and (3) customization, or meeting customer-specific values and expectations. Quality improvement is now a central management strategy in health care, including the management of gastrointestinal endoscopic services. In 2006, the American Society for Gastrointestinal Endoscopy (ASGE) and the American College of Gastroenterology (ACG) published collaborative guidelines suggesting potential quality indicators for gastrointestinal endoscopy, including both generic items pertinent to all endoscopy and others specific to colonoscopy, upper endoscopy, endoscopic ultrasonography, and endoscopic retrograde cholangiopancreatography.[1-5] This article will focus on the issues germane to all endoscopic procedures and to the overall endoscopy unit.

Prerequisites for successful quality improvement

Institutions that successfully engage their staff in quality improvement demonstrate strong advocacy from the leadership of the organization and communication of a coherent quality improvement vision.[6] For academic or hospital-based units, the quality voice extends from departmental or divisional chairs and the hospital administration. For ambulatory surgery or endoscopy centers (ASC), leadership and advocacy must come from the owners or partners. Senior on-site management should be supportive and vocal about quality expectations and model desired behaviors and practices. Larger units often place quality improvement issues in the hands of a nonphysician manager or specialist; small ASCs may retain this activity for the managing partner.

Delivery of high-quality health care is also highly dependent upon the quality of the staff employed in the facility, including all supportive personnel, allied health staff, and physicians. Hence, the management of unit quality requires significant attention to the hiring and professional care of optimally educated and motivated staff that can work as a cohesive team. Ongoing motivation of staff is benefitted by many interpersonal aspects of the practice, including extension of friendliness and common courtesy to all patients and staff within a professional environment, acknowledgment and recognition for excellent group or individual performance where due, and ensuring sufficient opportunities for responsibility or professional growth of superior employees, while counseling and assisting underperforming staff to reach their presumed potential. When managing gaps in unit performance, improvements generally result from process changes employed by all staff rather than altered work habits of individuals. Although measurement of individual performance is occasionally required to enhance efficiency and quality in a unit, overemphasis on

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individual performance can impede efforts to improve teamwork. Despite its importance for personal counseling, modest interindividual variation should be accepted as normal. Ongoing education, competency testing, counseling, and documentation of performance remain important throughout employees' careers. Performance appraisals, whether individual or group based, should be based on outcomes under direct control of the staff member or group. Disruptive or chronically struggling staff, including physicians, may need encouragement to pursue alternative employment.

Assuming employment of able and motivated staff, other requirements for effective quality improvement include (a) recognition of the need for improvement, typically referred to as gaps in performance, (b) a clear understanding of the problem and the contributing factors, (c) accurate and timely data, (d) a plan toward achieving the desired change, and (e) motivation and leadership toward addressing the need. Several of these points will be discussed in greater detail below.

Quality measures—design and application

Quality improvement efforts presume that performance can be measured and compared against standards defined either by ideal performance or by the best practices in a peer community. The parameters for performance are typically termed "metrics," "measures," or "indicators," which are scored as a ratio representing the incidence of correct performance (numerator) compared with opportunities for correct performance (denominator). Quality measures for local improvement projects may be defined informally. Those intended for broader application in registries or quality oversight endeavors (by the Centers for Medicare & Medicaid Services [CMS], payers, etc.) are rigidly standardized to ensure uniform interpretation and data collection. Measures designed for submission and assessment in the context of registries can employ common clinical language, whereas those designed for assessment via submission of billing claims depend upon existing or newly defined administrative codes for their expression.

Useful quality measures should correlate with pertinent clinical outcomes and be reproducible, feasible, and evidence based.[7] Measures are often categorized by the type of performance assessed: structural measures refer to the characteristics of the health-care environment, such as facilities, policies, equipment, and staffing; process measures assess actual performance in the delivery of care compared with accepted standards; and outcome measures reflect the results of care from the patient's perspective.

Quality measures may be used in ad hoc fashion for simple or short-term improvement projects in small environments, in which case manual accumulation, tracking, and display of data are typically sufficient. More automated data accrual is helpful in larger settings or when serial display in run-charts is required for intractable issues or to inform managers via an organizational "scorecard" or "dashboard."[8,9] Fortunately gastrointestinal endoscopy care is relatively standardized and employs repetitive processes, allowing documentation and data accrual in standardized electronic report generators and health records. With the growing importance of quality measures in pay-for-performance schemes such as reimbursement from CMS and the likely ascendance of quality reporting via registries, use of a CMS-qualified electronic record and report generator is becoming an essential business investment.

Identifying and prioritizing improvement opportunities

Quality improvement activities generally begin with recognition of the need for improvement.[10] Every facility has issues pertaining to safety, service, clinical outcomes, cost, and efficiency that can be improved. Numerous resources and consulting services are available for enhancing the business performance of a unit.[11,12] Financial metrics commonly employed on a monthly basis for endoscopic businesses include practice-, unit-, and physician-specific revenues, relative value units, costs, cost and revenue per case, procedures per room per day or year, accounts receivable by age, and days in accounts receivable.[6] Benchmark targets and gaps in performance on these issues are beyond the scope of this article.

Several techniques can help identify gaps in performance related to the delivery of endoscopic services. One is to carefully assess the sequential steps in care, beginning with the procedure request and scheduling, and then proceeding through all aspects of preprocedure exchange of information, patient preparation, check-in, procedure performance, recovery and dismissal, and subsequent communication of results. Gaps may also be illuminated by repeated mention on employee or patient questionnaires or by the occurrence of "near-miss," "never," or sentinel events, all of which warrant investigation for structural or process failures. Mandates from regulators, payers, and accrediting organizations, as well as quality measures promulgated by national and international organizations, should be monitored for guidance. They include guidelines from the national gastroenterology societies, the Centers for Disease Control,[13] National Patient Safety Goals from the Joint Commission (JC),[14] and the Physicians Quality Reporting System (PQRS) from CMS.[15] Among these various resources, the collaborative quality metrics identified by a work group of the ASGE and the ACG[1-5] are most pertinent to gastrointestinal endoscopy.

Some quality metrics for endoscopy are defined in the context of unit-wide measurement and others are defined primarily for physician-specific improvement.[16] Structural measures regarding facility and management characteristics are most applicable to the unit as a whole. Many are incorporated into CMS's "Conditions for Participation" and are surveyed for during the accreditation process. Numerous other unit-based measures that can be considered are delin-