Quality indicators common to all GI endoscopic procedures

Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.[1] The American Society for Gastrointestinal Endoscopy (ASGE), the American College of Gastroenterology (ACG), and the American Gastroenterological Association (AGA) have continually promoted the ideal that all patients have access to high-quality GI endoscopy services. A high-quality endoscopy is an examination in which patients receive an indicated procedure, correct and relevant diagnoses are recognized or excluded, any therapy provided is appropriate, and all steps that minimize risk have been taken.

The quality of health care can be measured by comparing the performance of an individual or a group of individuals with an ideal or benchmark.[1] The particular parameter that is being used for comparison is termed a quality indicator. A quality indicator is often reported as a ratio between the incidence of correct performance and the opportunity for correct performance or as the proportion of interventions that achieve a predefined goal.[2] Quality indicators can be divided into three categories: (1) structural measures—these assess characteristics of the entire health care environment (eg, availability and maintenance of endoscopy equipment at a hospital), (2) process measures—these assess performance during the delivery of care (eg, proportion of patients who undergo biopsies when Barrett's Esophagus was suspected), and (3) outcome measures—these assess the results of the care that was provided (eg, proportions of patients diagnosed with colon cancer within five years of a screening colonoscopy).

METHODOLOGY

In 2006, the ASGE/ACG Task Force on Quality in Endoscopy published the first version of quality indicators common to all endoscopic procedures.[3] The present update integrates new data pertaining to previously proposed quality indicators and new quality indicators common to all endoscopic procedures. For the current report, we prioritized indicators that had wide-ranging clinical application, were associated with variation in practice and outcomes, and were validated in clinical studies. Clinical studies were identified through a computerized search of Medline followed by review of the bibliographies of all relevant articles. When such studies were absent, indicators were chosen by expert consensus. Although feasibility of measurement was a consideration, we hope that inclusion of highly relevant, but not yet easily measurable, indicators will promote their eventual adoption. Although a comprehensive list of quality indicators is proposed, we recognize that, ultimately, only a small subset might be widely used for continuous quality improvement, benchmarking, or quality reporting. As in 2006, the current task force concentrated its attention on parameters related solely to endoscopic procedures (Table 1). Although the quality of care delivered to patients is clearly influenced by many factors related to the facilities in which endoscopy is performed, characterization of unit-related quality indicators was not included in the scope of this effort.

The resultant quality indicators were graded on the strength of the supporting evidence (Table 2).[4] Each quality indicator was classified as an outcome or a process measure. Although outcome quality indicators are preferred, some can be difficult to measure in routine clinical practice, because they need analysis of large amounts of data and long-term follow-up and may be confounded by other factors. In such cases, the task force deemed it reasonable to use process indicators as surrogate measures of high-quality endoscopy. The relative value of a process indicator hinges on the evidence that supports its association with a clinically relevant outcome, and such process measures were emphasized.

The quality indicators for this update were written in a manner that lends them to be developed as measures. Although they remain quality indicators and not measures, this document also contains a list of performance targets for each quality indicator. The task force selected performance targets from benchmarking data in the literature when available. When data were unavailable to support establishing a performance target level, "N/A" (not available) was listed. However, when expert consensus considered failure to perform a given quality indicator a "never event," such as monitoring vital signs during sedation, then the performance target was listed as >98%. It is important to emphasize that the performance targets listed do not necessarily reflect the standard of care but rather serve as specific goals to direct quality improvement efforts (Table 3).

Quality indicators were divided into 3 time periods: preprocedure, intraprocedure, and postprocedure. For each category, key relevant research questions were identified.

0016-5107/$36.00
http://dx.doi.org/10.1016/j.gie.2014.07.055

TABLE 1. Composition of the task force

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ASGE, American Society for Gastrointestinal Endoscopy; *ACG*, American College of Gastroenterology.

In order to guide continuous quality improvement efforts, the task force also recommended a high-priority subset of the indicators described, based on their clinical relevance and importance, on evidence that performance of the indicator varies significantly in clinical practice, and feasibility of measurement (a function of the number of procedures needed to obtain an accurate measurement with narrow confidence intervals and the ease of measurement). A useful approach for individual endoscopists is to first measure their performances with regard to these priority indicators. Quality improvement efforts would then move to different quality indicators if endoscopists are performing above recommended thresholds, or the employer and/or teaching center could institute corrective measures and remeasure performance of low-level performers.

Preprocedure quality indicators

The preprocedure period includes all contact between members of the endoscopy team with the patient before the administration of sedation or insertion of the endoscope. Common issues for all endoscopic procedures during this period include: appropriate indication, informed consent, risk assessment, formulation of a sedation plan, management of prophylactic antibiotics and antithrombotic drugs, and timeliness of the procedure.

1. *Frequency with which endoscopy is performed for an indication that is included in a published standard list of appropriate indications, and the indication is documented (priority indicator)*

   Level of evidence: 1C+
   Performance target: >80%
   Type of measure: process
   Standard indications for endoscopy are listed in the ASGE Appropriate Use of GI Endoscopy guideline.[5] An appropriate indication should be documented for each procedure, and, when it is not a standard indication listed in the current ASGE Appropriate Use of GI Endoscopy guideline, it should be justified in the documentation.

   Discussion: In general, endoscopy is indicated when the information gained or the therapy provided will improve patient outcomes and is not indicated when the risks of the procedure outweigh any possible benefit to the patient. ASGE published a list of accepted indications for endoscopic procedures in 2000.[6] This list was determined by a review of published literature and expert consensus and was updated in 2012.[5] There was little substantial change with regard to indications for EGD and colonoscopy in the update. Facilitation of cholangioscopy and pancreatoscopy were added as accepted indications for ERCP. Additional EUS indications were included, such as placement of fiducial markers, treatment of symptomatic pseudocysts, drug delivery, provision of access to the bile or pancreatic ducts, evaluation for chronic pancreatitis, perianal and perirectal disease, and screening patients at increased risk of pancreatic cancer. Studies have shown that when EGD and colonoscopy are done for appropriate indications, significantly more clinically relevant diagnoses