

PRACTICE MANAGEMENT

Trends in Gastroenterology Reimbursement and Practice Management

Endoscopy Unit Efficiency



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G&H How is the modern healthcare system bloated, particularly in relation to endoscopy?

ZG There are 2 reasons for the bloating of the modern healthcare system: overuse of procedures and inefficient use of existing resources. For example, a number of studies have been published on the overuse of colonoscopy for surveillance of low-risk patients, and one report was recently published on the overuse of upper endoscopy in patients with gastroesophageal reflux disease. In addition, the American Board of Internal Medicine has included colonoscopy and upper endoscopy in their Choosing Wisely campaign (specifically colonoscopy in low-risk patients and upper endoscopy for screening of Barrett esophagus).

As for inefficiency, the Institute of Medicine has reported that approximately 30% of healthcare dollars, or approximately \$760 billion, are wasted. This figure breaks down to approximately \$210 billion in unnecessary services, \$130 billion in inefficiently delivered services, \$190 billion in excess administrative costs, \$105 billion in excessively high prices, approximately \$55 billion for missed opportunities for disease prevention, and \$75 billion in fraud. In terms of gastroenterology, specific examples of inefficiently delivered services include underuse of endoscopy rooms in hospitals or ambulatory surgical centers and underuse of staff (whether nurses or physicians). Historically, the physician has been the priority in terms of scheduling, which has made utilization of rooms and other staff not as high of a priority as they might otherwise have been. Furthermore, scheduling systems have not always been able

to utilize resources in an efficient manner by adjusting appointment slots to the predicted length of a procedure. This limitation is further compounded in centers with a highly varied and complex mix of cases as well as in centers with trainees.

G&H What are the characteristics of ideal efficiency measures?

ZG Much of the work that has been done on efficiency measures in healthcare has been supported by the Agency for Healthcare Research and Quality (AHRQ). Several years ago, the AHRQ looked at a number of different efficiency measures and identified 4 ideal characteristics. First, the measure had to measure something of importance to one of the stakeholders (the provider, payor, or policymakers); otherwise, there would be no point to obtaining the measure in the first place. There also had to be room for improvement, and the measure had to be under the control of the stakeholder. The second characteristic was that the measure had to be scientifically sound, so it could be reliable and reproducible. For example, if one physician measures something and wants to compare himself or herself with another physician, both physicians have to be measuring the same thing. The third characteristic was feasibility. In other words, were data available to measure that particular measure, and was the cost to obtain the measurement reasonable? The fourth characteristic was being actionable. Even if a measure was important, sound, and feasible, there was no point in measuring it if someone could not do anything about it.

G&H What are the different types of efficiency metrics?

ZG There is a great need for a common set of metrics related to efficiency in endoscopy, especially for hospital-based endoscopy units that are larger and more organizationally complex than ambulatory surgical centers. A set of metrics that, ideally, is important, sound, feasible, and actionable could help guide the management of these larger units. The way that my colleagues and I have framed this concept is to use outcome measures, process measures, and structural measures of efficiency in endoscopy. Outcome measures can include throughput and flow time (eg, cases per day or procedures per room per day) as well as cost (eg, expense per case or per procedure). The strength of outcome measures is that they are what is most important to a practice. The problem is that risk adjustment is key. For example, when trying to compare different endoscopy units using outcome measures, if 1 unit performs 5 cases per room per day, and another unit performs 10 cases per room per day, that does not necessarily tell us enough about efficiency unless we understand the types of patients being treated and the types of procedures being performed; there has to be some sort of risk adjustment when examining outcome measures.

The other limitation of outcome measures is that no information about why any measure is high or low is given. To understand this, process measures are needed. Process measures measure how well a system is performing given a set of resources. Examples of process measures in endoscopy include room turnover time, prep time, sedation time, procedure time, and recovery time. In my opinion, the most important process measure is room turnover time. Several studies have suggested that room turnover is the key process, or the limiting process factor, in endoscopy. Modeling studies have demonstrated that shortening room turnover time would have a significant impact on throughput, which shows how process measures can affect outcome.

Structural measures, the final category of efficiency metrics, are the most actionable of the different types of measures. Examples of structural measures include the number of procedure rooms; the number of staff, whether physicians or nurses; the unit layout; and the number of endoscopes. Sometimes, practices may mistakenly look at an outcome measure, such as throughput, and assume that the reason it is not good is because there are not enough nurses, physicians, or even endoscopes. This is one of the ways that the healthcare system becomes bloated—physicians assume that, if they just had more resources, they could improve their outcomes. This may be true, but it does not necessarily mean that physicians are being more efficient. To understand efficiency, it is necessary to look at

all 3 types of measures (outcome, process, and structural) but, most importantly, the processes themselves.

There are also patient-centered measures, which should be mentioned. Many measures tend to be operational or business measures, but patient waiting time is an important measure that is considered to be a process measure, although it could also be considered to be an outcome measure. It is important, in terms of efficiency, to look at how long patients are waiting, whether in the waiting room or in the endoscopy unit, prior to the procedure.

G&H How else can these efficiency metrics be used in endoscopy units?

ZG Outcome measures, which are important, sound, feasible, and potentially actionable, are best used to understand the products of interest (ie, the throughput) and also can be used to benchmark an endoscopy unit against other endoscopy units or to itself over time. Process measures can also be benchmarked, but they are perhaps most helpful internally to identify bottlenecks and to help guide process improvement. Structural measures are important for matching resources with demand. It is less important, from a benchmarking perspective, to compare how many nurses a unit has with that of another unit; in contrast, it is important to determine when a process is not working as well as it should be to understand whether additional resources may be needed to improve the process.

G&H What do you recommend to gastroenterologists who are interested in learning about efficiency metrics and how to apply them in their practice?

ZG The hardest thing for gastroenterologists who are interested in efficiency metrics is actually obtaining the data. Some healthcare systems use electronic health records or endoscopy report writers, which can help facilitate collection of these data, of which outcome data are certainly the easiest to collect. (In particular, throughput and resource utilization are fairly straightforward to collect.) If practices are not already doing so, they should start measuring outcomes and trying to compare them with benchmarks, whether internal or external, to understand the productivity of their practice. To move from productivity to efficiency, it is necessary to start collecting process measures and data to understand where opportunities arise for process improvement. This can be done through a number of different methodologies—including management or industrial engineering tools such as simulation modeling, Six Sigma, and Lean—to examine processes and to

understand whether they are working efficiently. Once the outcomes and processes of a practice are examined, it is important to think carefully about the structural components of the practice to determine if it is possible to decrease unit costs, whether this refers to the number of endoscopes or nurses needed or how appointment templates can be optimized to maximize physician productivity. Benchmarking is very challenging; data are available in the ambulatory care practice setting for a number of these measures but not for hospital-based units or larger units that perform more complex procedures. This is an important unmet need that should be addressed in future research.

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techniques coupled with the endoscopist's experience, comfort level, room setup vis à vis the use of monitored anesthesia care, and fluoroscopy equipment should all be considered in choosing an appropriate approach.

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