EDITORIAL

Tackling no-shows and improving endoscopy suite efficiency

Efficiency and quality improvement initiatives are increasingly becoming crucial targets of interest in the healthcare industry. Once a topic of purely academic discussion, the way healthcare is delivered is now being scrutinized by almost every aspect from reimbursement to credentialing. It's not just about patient satisfaction anymore. Patients no longer just want to see the "best" doctors. They expect lean, error-free, efficient processes, and payors, regulators, and the private sector are taking notice.

In addition to being mindful of quality improvement and error reduction, we have also entered the era of cost-cutting. At first glance, these seem like naturally opposed forces. How could we improve something if we are going to spend less? Clearly, better is more expensive, right? Well, for the most part, that notion has passed, and we are learning that there are creative and essential ways to improve the financial situation of healthcare while delivering better outcomes for our patients. As it pertains to the field of gastroenterology, the obvious target is the endoscopy suite.

An endoscopy suite, like many other medical processes, is a complex operation. Because we as physicians deal with human lives, we often tend to ignore the lessons learned from other non-healthcare–related industries that also have intricate operations. After all, what do air traffic and assembly lines have to do with colon cancer screening? Well, the truth is: a lot. Ultimately, all these processes want the same thing: zero errors. In terms of endoscopic examinations, our goal is for everyone who needs one to receive one, and to do so in a timely manner without adverse events. But what happens when one of these steps goes awry? What happens, for example, when the key input to the process—the patient—doesn't even show up for their procedure?

The no-show dilemma affects every industry in the world. A patient, for all intents and purposes, represents an input to a system. When an input does not enter a process, the process does not simply continue unaffected. There is a clear effect and, depending on what the process is, that effect can have varying degrees of significance. A patient failing to arrive has numerous consequences.[1] Sure, perhaps someone will have an extended lunch break, but the adverse consequences are plentiful.

No-shows, or missed appointments, first and foremost affect the patient. If a patient has an endoscopy appointment, it is because that individual, in consultation with a gastroenterologist, thought it was necessary. Whether it was for diagnostic or therapeutic benefit, the endoscopy will not happen because of the missed appointment, and that patient will not receive what could potentially be a life-saving benefit. The worst-case scenario, which unfortunately does occur, is that a person is permanently lost to follow-up and never receives the procedure that could have saved their life.

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There are other negative effects of no-shows. These effects include missed revenue, late starts on the proceeding cases, additional staff member efforts to reschedule the missed case, and longer wait times for other patients looking to book an endoscopy appointment. One other major outcome is that no-shows lead to endoscopy suites operating at suboptimal efficiency. Unlike an automobile, which can be turned off when not in use to save fuel, an endoscopy suite cannot be turned off for an hour to spare the expenses. The staff members will remain and the lights will stay on despite a missed appointment. And by the time an appointment is deemed to be missed, it is too late to "bump up" the next appointments to make up for that unpredicted scenario.

In the current issue of *Gastrointestinal Endoscopy*, Childers et al[2] face this challenging issue of missed endoscopy appointments by introducing a nurse telephone call into the practice. Their previous system primarily used a mailed reminder, whereas the new approach involved hiring a full-time nurse to call patients 7 days before their endoscopy appointment. Once the initiative was implemented, the no-show rate was monitored for 19 weeks. For comparison, the authors noted the no-show rate for the preceding 19 weeks. They

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accounted for the costs associated with the initiative and assessed for the factors that could affect the risk of patients missing their appointments.

The introduction of a nurse telephone call led to a significant reduction in the no-show rate from 16.5% to 12.8%. After variable adjustments, the intervention had an odds ratio of 0.67 and a 33% reduction in the odds of a patient missing an endoscopy. In addition, various factors were thought to be predictive of a patient successfully attending their endoscopy appointment, such as having a partner or having commercial or managed care. Regarding the financial factors involved, recovered reimbursement during the study period was $48,765. Maintenance costs, not startup costs, of $32,566 were taken out of that sum and projected to give a net recovered reimbursement per annum of $43,173. Overall, the nurse telephone call initiative led to additional patients receiving their needed endoscopies, increased efficiency in the endoscopy suite, and increased profits during the study period. Thus, the authors essentially met all the clinical, operational, and financial goals.

Although the notion of reminders reducing no-shows is not a novel concept, the authors rightfully acknowledge this and take the analysis one step further to discuss the cost implications of their quality improvement initiative[3-8]—a step too often omitted from our conversations. It is no longer sufficient to limit discussion to whether an initiative or a new modality serves its intended purpose. A detailed and thoughtful analysis should also take into account whether that initiative can remain sustainable and adoptable by those who need it in an era in which numerous practice constraints exist. Implementing cost analyses is one of many ways to begin that discussion.

Given that this study successfully blends quality improvement with cost assessment, a discussion we should expect to see increasingly in the literature, it is vital to understand the financial analyses that are occurring. By doing so, we will have a greater understanding of what these initiatives can offer us and what they cannot. First, initiatives such as those presented by the aforementioned authors do not save money, or by stricter terms, reduce costs. A full-time nurse was hired, which undoubtedly raised the general operating costs of the practice and likely raised the cost per endoscopy. Furthermore, although salary was incorporated into cost, we do not know whether other forms of compensation such as health benefits or retirement plan, were factored in, which will inevitably affect the cost at other practices implementing such a measure.

After the rise in cost, the new profit margin in this practice was likely reduced, because although the nurse telephone call initiative raised costs, it did not alter the reimbursement per endoscopy. Thus, each endoscopy had a reduced profit margin. However, the selling point of the initiative lies in the fact that it improved the yield of endoscopy appointment booking, increased the input into the endoscopy suite process, and increased overall volume, leading to recovery of potentially missed revenue. This revenue significantly offset the costs associated with the hired staff member and thus proved to be operationally and financially effective.

The authors astutely address the limitations of the study and state that the intervention period had no simultaneous control arm to compare. Preceding data during similar months were identified in lieu of a true control arm. Although it is well established that telephone call reminders will reduce no-shows, it may be somewhat difficult to portray accurately the true revenue recovered without a true control and without taking into consideration the fact that the preintervention data contained some patients who had received secretarial telephone call reminders. Despite those limitations, it is still probable that the authors would have achieved cost effectiveness with this measure, and the cost analysis itself is what is unique and essential in this study.

Given the benefit shown by Childers et al.,[2] should every practice with an ambulatory surgery or endoscopy center or every chief or director of endoscopy hire a nurse solely to make telephone reminders to patients? It depends on whether we understand all the implications of that decision and whether we think we can do better. One of the hidden benefits of a reminder is that it not only has the opportunity to change a no-show to a show. It also has the opportunity to change a "might have been late" to an on-time arrival. It would be interesting to see an analysis that accounts for this factor and the costs associated with improving on-time starts because of this and other initiatives. On-time starts can serve as yet another metric to which we evaluate the efficiency of an endoscopy suite.

The authors take the discussion further by suggesting alternatives to committing to a full-time nurse making telephone calls to every patient. They introduce the notion of targeting the telephone calls to individuals who are more likely to miss their endoscopy appointments, such as single men scheduled for a screening or surveillance colonoscopy. Furthermore, they add that one could consider hiring lower-paid employees. Although that might improve the economics of the situation, the article suggests that it might not bring the added value of a more clinical discussion between nurse and patient, should that be needed. However, if most of the telephone calls are truly reminders and do not involve complex clinical questions, it is feasible that a navigator or other staff member could accomplish a similar goal at a lower cost.

Regardless of whether hiring an additional staff member is the correct decision for a practice, the importance of understanding the implications of such decisions cannot be

overstated. In this study, financial effects were brought into the discussion. Because an endoscopy suite process is highly complex, any intervention can lead to any possible outcome. With increased understanding of that process, we as gastroenterologists can continue to shift the "unpredictable" to the "predictable," which will inevitably lead to improved efficiency and better quality patient care. If we can remain cost-effective while doing so, we will have achieved the trifecta of a clinically, operationally, and financially successful practice.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

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