

Information systems

What's next for preop automation?

What's the best way to assess patients preoperatively? Typically, there are 3 approaches:

- a preoperative clinic
- phone assessments by nurses
- screening coordinated by surgeons' offices.

Each has advantages and disadvantages. Preoperative clinics provide a central point for managing patient preparation, but they are expensive, and it is difficult to make anesthesiologists available for assessments. Healthy patients typically don't need to come in for a full evaluation, and unnecessary preop appointments can be a dissatisfier for patients.

"These clinics are falling out of favor because there is no separate reimbursement for them. We have found places where clinic costs exceed \$150 a visit," says David Young, MD, an anesthesiologist and member of a task force at 500-bed Advocate Lutheran General Hospital in Park Ridge, Ill, that is working to improve the preoperative process.

Nurse phone assessments can be effective but also are expensive, costing about \$70,000 a year with benefits for a nurse FTE. And there still must be a process for assessing patients who need to be seen in person.

Screening by surgeons' offices can be difficult to coordinate.

Could automation help?

Dr Young and his team began thinking about how automation could help. What if a patient answered an online questionnaire? Is there software with algorithms that could process the patient's responses, for example, on cardiac health? Could the software produce a report to say whether the patient needed lab tests and needed to come in before the day of surgery? Is there a program that could print patient-specific instructions such as information on diabetes and herbal medications? Could instructions even be printed in the patient's native language?

The closest thing they found is HealthQuest, an automated patient questionnaire developed by the Cleveland Clinic. HealthQuest is used to screen over 90% of the Clinic's preoperative patients. Over 185,000 patients have used the program, and, as a result, 55% of patients are now seen only on the day of surgery. Surgical delays have been reduced by almost 50%.

Lutheran General negotiated with the Clinic, which does not market HealthQuest commercially, to adopt it and develop additional features. The expanded program, called PrepQuest, is scheduled to roll out at Lutheran General this month. A commercial version is under development by Surgical Directions, LLC, of Chicago.

How HealthQuest works

Patients answer HealthQuest's automated questionnaire in the surgeon's office or at home via the Internet.

"The questions are geared to a 6th grade reading level but generate a thorough, processed medical history," Dr Young explains. "The questions are similar to what you normally answer in a surgeon's office, except the history is much more complete." A healthy patient can complete the questionnaire in under 10 minutes; a patient with medical problems takes longer.

Based on patients' responses and invasiveness of the planned surgery, the program calculates a score for the patient's health status, which indicates the extent of evaluation needed. Healthy patients are assigned to "express" status and have an

anesthesia evaluation on day of surgery. Patients who need more extensive evaluation are assigned to:

- a preanesthesia clinic to be seen before the day of surgery
- an internal medicine clinic, which focuses on medical issues for patients with multisystem disease or
- the patient's own internist for a preoperative assessment.

PrepQuest will take HealthQuest a step further by building in additional algorithms to determine which if any lab tests a patient needs. After patients complete the questionnaire, a list of lab tests, x-rays, and patient instructions is faxed to the surgeon's and internist's office. PrepQuest also will print worksheets for preop nurses to use as well as patient-specific instructions about parking, day of surgery medications, and other issues.

"Our goal is to have the presurgical testing area, the primary care physician, and the surgeon all working with the same requirements," Dr Young says.

"I think there is growing recognition that every institution has to have some sort of organized process for preoperative preparation," particularly as patients' conditions become more complex, and new medications become more challenging to keep up with.

"This process will help hospitals and physicians plan for patient care more effectively, especially for patients with cardiac disease or diabetes or those needing beta-blockers or who are on anti-thromboembolic or anticoagulant regimens.

"I really believe automation is the best method for improving the preoperative process, whether through our program or others. It could really help us standardize and streamline this aspect of patient care," he says. ♦

—Pat Patterson

Have you taken steps to improve your preop process that you would like to share? Contact editor@ormanager.com.

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