Reducing healthcare costs while ensuring patient safety and improving quality is the goal of most healthcare reform efforts. Unfortunately, there is a great deal of disagreement over how to achieve this goal. One thing most experts agree on, however, is that eliminating unnecessary tests and procedures is a good place to start. At many institutions, including my own (the University of Iowa [UI] Hospitals and Clinics), laboratory test management has become a crusade aimed at helping physicians order the right tests for the right patient at the right time and at the right cost. In this article, I share my own experiences with a new test management program at UI.
Computerized Physician Order Entry

Recently passed healthcare reform legislation offers incentives to healthcare institutions that want to invest in information technology (IT) designed to provide safer, more cost-effective delivery of healthcare services. A key component of this kind of IT solution is computerized physician order entry (CPOE), a system that allows physicians to submit medical orders for items such as tests, medications, and special procedures on a computer. In May 2009, a CPOE system was installed at UI.

Knowing that laboratory data drive most patient care and influence treatment decisions, we hoped CPOE would help eliminate unnecessary testing and enable us to respond and treat patients more quickly. We realized it would take time for physicians to learn and get used to the new system, so we were not surprised when there was an 8 percent drop in test volume from July through December 2009. As physicians became more proficient with the new system, test volumes returned to normal.

Test Selection Simplified

Ongoing rapid growth in the number and complexity of laboratory tests can make it difficult for physicians to stay current. As a result, they may fail to order better or less costly tests because they are unaware of their availability or do not understand when it is appropriate to use them. This can lead to both under- and overutilization.

A good CPOE system, however, can help physicians with test selection in several ways. One is by using the search function. To check a patient’s vitamin D status, for example, the physician types “vitamin D” into the search box, and a list of all tests with vitamin D in the name pops up. If two or more tests are available, a prompt requires the physician to read information on the use of the test and respond to the prompt before placing the order.

The combined use of “order sets” and physician “preference lists” also helps manage test utilization. An order set is a menu of tests that can be used when a patient has certain
symptoms or a specific disease. All laboratory tests in an order set are reviewed by pathology to ensure they are appropriate. A preference list, in contrast, is a list of laboratory tests created by an individual physician or department that is not subject to pathology oversight. Physicians select the tests they want done from these two lists.

Best practice advisories (BPAs) can be embedded in a CPOE system and used to help ensure quality and control costs. BPAs are standardized clinical guidelines that outline the best approach for diagnosing and treating patients with specific medical conditions or symptoms. The clinical guidelines are developed by medical experts, but they are also reviewed and approved by a hospital oversight committee that includes representatives from pathology.

Other Benefits of CPOE

A particularly valuable feature of CPOE is its preventive and health maintenance component. For example, a physician who prescribes methotrexate for a patient is prompted to order periodic liver function tests as well. A physician ordering a hepatitis B surface antigen test, on the other hand, is directed to make sure the patient has not had a hepatitis B vaccination within the last two weeks.

CPOE can also help reduce test duplication. Suppose a physician orders a basic metabolic panel and then tries to order a glucose test for the same patient. Because the panel already includes a glucose assay, the physician will get a pop-up noting the duplication and asking him or her to cancel or confirm the order.

It is common for physicians to issue “standing orders” for laboratory tests, but the practice can lead to unnecessary testing when they fail to cancel tests that are no longer clinically indicated. The CPOE system reminds physicians of their standing orders and gives them the option to cancel. A physician who wants to place a standing order for a basic metabolic panel or CBC receives a pop-up describing the limited value of this kind of routine daily testing. CPOE systems can also set time limits for standing orders. When the time limit expires, the physician must issue a new order or provide an explanation for the standing order.

CPOE is a useful tool in the struggle to achieve the nation’s healthcare goals. But it cannot be the total solution for managing test utilization. The key to successful management is an integrated, systematic approach that includes the laboratory team and physicians in an environment that fosters collaboration, communication, and mutual respect for the expertise each brings to this challenge.

I welcome your feedback. Please send your questions or comments to me at MemberChair@ascp.org.

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