Smart test ordering—new program provides the tools

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February 2018—A new CAP program with a novel approach makes it easier to take on an old problem: misapplied laboratory tests.

The CAP Test Ordering Program, available now and complimentary to all members, is different from other laboratory test utilization initiatives, says Richard W. Brown, MD, medical director for system laboratory services at Memorial Hermann Health System in Houston. He is a member of the CAP Quality Practices Committee, whose members conceived of and developed the program. “Rather than directly addressing ordering physicians, we are writing this for pathologists to help them optimize testing in their particular practice setting. It’s the first program that provides this much detail in terms of an actual model for pathologist intervention.”

Educating pathologists in how to initiate systemwide test use management is important, says QPC member Gary W. Procop, MD, MS, medical director of medical operations and clinical microbiology at Cleveland Clinic. “It’s getting pathologists involved in optimal care delivery. We’re not just doing the test. We’re helping the test be done right at our medical centers.”

The CAP Test Ordering Program is modular and focuses on individual tests or conditions and diseases. The à-la-carte design makes it easy for members to select the modules best suited to their practice.

The October 2017 program launch consists of four modules: cardiac marker testing practices, appropriate testing for HCV infection, red blood cell folate testing, and B-type natriuretic peptide (BNP) or N-terminal-proBNP (NT-proBNP). Members can download the modules at www.cap.org.

The modules follow a standard format that begins with a synopsis and objectives and then provides background on the test (or tests), its appropriate use, and how to apply this information to evaluate and improve testing. Each module lists multiple interventions from which to choose.

For example, from the HCV infection module: Create a best practice alert, such as a pop-up or soft stop, whenever a second HCV serologic study is unnecessarily ordered on a known seropositive patient. And: “Create a laboratory-based algorithm that assures that an HCV viral load of sufficient quantity is present before proceeding to HCV genotyping.” From the BNP and NT-proBNP module: “Use different names for the same test to guide appropriate utilization. For example, inpatient orders might be limited to BNP (admission) and BNP (discharge).” And from the not-yet-released thyroid disorders module: “Discourage the use of resin T3 uptake, reverse T3 in thyroid function, and FT4 index testing. Attempt to obtain consensus to eliminate these tests from the laboratory menu.”

The impact analysis is a key section of each module. It demonstrates how to assess the efficacy of the intervention, either with a financial model or with a model that addresses another measure, such as length of stay or appropriateness of antibiotic therapy, Dr. Brown says.

“We’re providing the pathologist with a tool for measuring outcomes, not clinical outcomes necessarily, but outcomes in terms of ‘How successful was the intervention?’ We envision a conversation the pathologist could have with their administrator to say, ‘This is what we did, here’s how we did it, and we’ve actually saved this much in length of stay or in cost,’” Dr. Brown says. “It gets back to the idea that pathologists add value beyond diagnosing disease from a glass slide.”

Dr. Brown

Modules have a reference list and a question-and-answer section to assess learning. Some modules include a testing algorithm example. And for each module, CAP members can download a one- to two-page handout to share with clinicians. The handout is one way for the pathologist to say, "'Here's the evidence-based science behind what I'm telling you,'" Dr. Brown says. He adds, "The handouts are a great resource because they provide the background needed to have an informed conversation with the clinician."

The American Board of Pathology recognizes the importance of pathologist leadership in improving medical practice in a system-based manner, says Dr. Procop. The ABP has therefore approved the modules for Maintenance of Certification part IV, so pathologists can self-claim the modules for MOC part IV credit.

The multidisciplinary group of pathologists who compose the Quality Practices Committee select the module topics based on test use issues of importance. Some of the future modules will be disease oriented, says former QPC vice chair Ron B. Schifman, MD, professor of pathology at the University of Arizona College of Medicine and chief of pathology and laboratory medicine at the Tucson VA Medical Center. One such module in development—screening for and monitoring carcinoid syndrome—addresses multiple tests. Others will focus on diagnosing celiac disease and tick-borne infections. Also to come are modules on repetitive constitutional genetic testing and free PSA. New modules will be added each year.

Two of the modules now available—red cell folate testing and cardiac marker testing practices—address tests that are likely unnecessary, Dr. Schifman says.

"Red cell folate—I think it's pretty well established that test is rarely, if ever, needed," Dr. Schifman says. "It's just as good to measure serum folate, and for some populations it would be questionable if serum folate should be routinely done at all."

Clinical studies show that improvements in troponin testing have made troponin sufficient, and CK-MB unnecessary, in most cases of acute cardiac injury evaluation.

One part of the HCV infection test module addresses "more of an omission issue where the patient has an antibody to hepatitis C detected but that's not sufficient to make the diagnosis," Dr. Schifman says. "You have to confirm the diagnosis of chronic hepatitis by following up with measuring hepatitis C viral RNA as well."

The module for HCV infection cites two national guidelines related to confirming positive hepatitis C antibody tests to prevent the misdiagnosis of a patient who has become immune or may have a false diagnosis of chronic infection because the follow-up RNA test was not completed.

"It also addresses other types of gaps in practice," Dr. Schifman says. "For example, a patient with chronic hepatitis C no longer has to have antibody testing. It doesn't serve any useful purpose. There are suggestions on different kinds of problems that could be encountered with these specific tests—what to look for and how to evaluate them in your practice."

Dr. Procop

A pathologist in a reference laboratory can download the HCV infection testing module and use the measures as a basis for gathering a hospital client's HCV infection testing data over time, Dr. Procop says. "They can feed that back to the client and say, 'Here are the clinicians who are routinely ordering repetitive tests that you really don't need.'"

"The wise reference laboratories are not going to take the short view and just do tests for the dollar," he says. "They're going to reach out and try to help their clients optimize testing."

In that way, the reference laboratory is providing a health care management service, Dr. Procop says. "Their client can then go talk to that clinician, and that clinician may not know it's being done. It may be an order that's buried in an order set. They can work together to optimize care so a patient isn't being drawn a second time. That's how they could decrease waste and decrease costs."

If the examination of HCV infection testing data reveals that patients with a positive serology were not followed up with an RNA viral load, sharing that feedback can prevent those patients from falling through the cracks. "Population health management is where many of us are moving to," Dr. Procop says. "This is actually using laboratory data and informatics to help population health management."

The BNP module addresses the frequency with which BNP is used in patients who have congestive heart failure. "BNP is a test that is not only overutilized," Dr. Brown says, "but inappropriately utilized by providers in terms of frequency of testing and how the result is interpreted."

The modules will address testing overuse and underuse. "This program is not just about controlling utilization or cost containment," Dr. Brown says. "It's making sure the clinicians order the best tests to get to the right answer."

Says Dr. Procop: "It has been our mantra from the start that this is not a cost-cutting activity. People get bored of cost-cutting activities, and when it's purely a cost-cutting activity, you worry about cutting into quality."

One feature of the Test Ordering Program to be added to the website is a feedback mechanism, which will make it possible for members to share their module experience or provide test ordering success stories based on their laboratory experiences.

"Our initial view of the program," Dr. Brown explains, "was that not only would the committee be providing tools for the pathologist, but that ultimately the pathologists would be providing feedback and tips to each other."

Dr. Procop hopes that feedback information will in time be subcategorized to allow members to scroll to their area of most concern, whether it's send-out tests or hematology tests, for example. "A lot of it is, 'I need a good idea. What might work in my place?'"

"This is a fantastic way for the College to add value for its pathologist members," Dr. Brown says, "and in turn for the pathologists to add value in their practice setting." The Test Ordering Program is a reflection of the CAP's strategy to increase the profile of the pathologist as a more valuable member of the care team. "This program provides them with the tools to do that."

Dr. Schifman

The laboratory at the Tucson VA has implemented two test utilization solutions that strengthen communication with clinicians, Dr. Schifman says. A middleware solution for the over-ordering of high-volume, low-cost tests, such as iron or lipid panels, has resulted in the cancellation of hundreds of tests per month. One such rule addresses hemoglobin A1c, which the laboratory and medical staff together have determined to be ordered too frequently. "The specimen is collected, but when it gets to the laboratory the middleware then takes over to check the frequency of tests and determine if the test is to be performed or not," Dr. Schifman explains.

If the software finds the order frequency is an exception to the rule, "the sample will be not tested, and the result will be reported out as 'not done' with a comment as to why."

While there are hard-stop systems that intercept the order at the time the provider is ordering the test, the Tucson VA system permits the patient's blood collection to proceed as ordered for other tests that are needed and serves as a safety net to override the automatic cancellation, if needed.

The laboratory keeps specimens for six days, so if the physician felt the need to confirm a test, it could be done without affecting the patient's care.

The laboratory uses a different system for the low-volume, higher-cost tests. "We call those red flag tests, or tests that have a tendency to be sound-alike tests. The common one is 25-hydroxyvitamin D and 1,25-dihydroxy vitamin D."

A separate business process management system intercepts all orders for these types of commonly misordered tests, and the orders undergo manual review with other information from the patient's electronic medical record. "We typically review about 25 tests a day," Dr. Schifman says. "We work closely with the clinicians to make sure the correct tests are ordered."

"About 20 percent of tests that are reviewed in this way are either changed or canceled," Dr. Schifman says. "It helps us to be in touch with the clinicians and consult with them about what the best test might be."

Dr. Schifman has expanded test use management to the national VA laboratory system with a patient registry for genetic and phenotypic tests, the results of which would not be expected to change over time. An order for a genetic or phenotypic test is checked automatically against the patient test registry. If the patient has already been tested, the laboratory from which the order originated receives a notification with the test results and can share them with the provider. About 65 VA laboratories around the country have opted to receive such notifications.

Dr. Schifman refers to this registry program as a "trifecta" of rapid results, cost-effectiveness, and quality. "We had thousands of duplicates in our registry before we started the program," he says. "About two-thirds of duplicate orders are canceled by laboratories after receiving notifications, compared with fewer than five percent before the program began."

Dr. Schifman sees pathology-driven test use initiatives as easing the way to a future in which pathologists play a more important part in population health and patient testing by collaborating with medical staff.
The CAP's new Test Ordering Program, in suggesting to pathologists how they can partner with clinicians on test use, provides the most comprehensive approach to the problem of misapplied tests, he says. "There are a lot of

practical suggestions, and I haven’t seen that in any other program.”
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Amy Carpenter Aquino is CAP TODAY senior editor. From the CAP website home page, click on the Member Resources tab and scroll down to the Test Ordering Program section.