Clinician-friendly tactics slash unwarranted testing

Kevin B. O'Reilly

January 2014—A child born recently at Broward Health Medical Center was definitively diagnosed, without testing, as having a significant genetic abnormality. A medical resident eager to put his education into practice ordered genetic testing for the newborn, two normal siblings, and the child's parents.

The tests would have cost the hospital up to $10,000—each.

The testing would help the uninsured family understand its future options, the resident told the lab leadership at Broward Health, a five-hospital safety-net health system in South Florida.

The medical center's laboratory director, pathologist Fred Reineke, MD, and Leo Serrano, Broward Health's corporate director of laboratory services, pointed out that the testing was not needed for the child as it would not change the treatment plan. The two siblings were in normal health and showed no signs of the genetic abnormality, rendering the tests pointless for them. The testing for the parents might be indicated, but could be done on an outpatient basis once the family had enrolled in Medicaid.

No, the resident persisted. Once discharged, the family was set to head home—for Haiti.

Serrano (from left), Dr. Reineke, and Dr. Giffler at Broward Health. Says Serrano: "The lab can't do the formulary for the doctors. The doctors have to do their own."

"Doctor, we're glad to order these tests for you," Serrano says he told the resident. "And we'll send you the bill because Broward Health can't afford to eat the costs."

Unsurprisingly, that proposition proved dissuasive to the resident.

The wide-ranging effort to cut unneeded lab testing at Broward Health is not usually so dramatic, but the case

highlights what Serrano says is a central tenet of the system's wildly successful initiative that slashed nearly $900,000 in costs from July 2012 to July 2013.

"The magic question to throw out there is: Is this test going to make a difference in the patient's outcome or in the way you treat the patient?" Serrano says. "That's the mindset we have to establish."

What the laboratory leadership at Broward Health has learned, and is eager to share with their colleagues around the country, is that a top-down approach to tackling inappropriate testing will not succeed.

Yes, the Broward strategy contains the major elements typically included in lab-use reduction initiatives: an optimized computerized physician order-entry system, evidence-based test-ordering algorithms, and test formularies. But the essential component to making it all work has been putting much of the say-so over how the initiative has rolled out into the hands of the physicians who do the test-ordering. Collaboration, not dictation, is the watchword.

"By involving the medical staff from day one and having them be the decision makers, we've gotten good buy-in," says Ronald Giffler, MD, a pathologist and Broward Health system's corporate laboratory medical director.

Broward's accomplishment comes as new research confirms the pervasiveness of pointless lab testing across medicine. A recently published meta-analysis of 15 years' worth of studies that examined 46 of the 50 most commonly used lab tests found that 20 percent of the 1.6 million tests were ordered unnecessarily. And somewhat surprisingly, the overuse rate was 44 percent during initial testing, compared with just seven percent in repeat testing, said the study, published Nov. 15, 2013 in *PLOS ONE* (8[11]:e78962.doi:10.1371/journal.pone.0078962).

"The mantra that you keep hearing when you talk about inappropriate lab testing is: 'Oh, yes, of course it's about inappropriate repeat testing and it's bankrupting medicine,'" says Ramy Arnaout, MD, DPhil, the study's senior author and assistant professor in the Department of Pathology at Beth Israel Deaconess Medical Center and Harvard Medical School.

"We were able to take all of this inappropriate testing and split it apart to reveal this landscape," Dr. Arnaout says. "The problem is really in overuse of initial testing as opposed to repeat testing… . It points us in a different direction for improving care in the lab and in the hospital at large."

Nationwide, anatomic and clinical pathology lab tests cost between $60 billion and $70 billion, adding up to four percent of U.S. health spending. That dollar figure is on pace to double within the next four years, thanks in large part to spending on molecular and genetic testing.

No matter the source of unwarranted testing, the need to reduce overutilization may be even more vital at Broward than at many other health care organizations. During fiscal year 2013 alone, Broward—the country's 10th largest public health care system and among the top five busiest emergency department and trauma services in Florida—provided $326 million in charity care and wrote off another $371 million in bad debts for unreimbursed care. Less than six percent of the system's inpatient reimbursement is fee for service.

"We're still in the black," Serrano told the audience during a talk at the Lab Quality Confab in New Orleans last October. "We're not going to roll over and die—yet."

But given the system's financial position, any money spent on tests that are outdated or superfluous seems especially wasteful. The leadership at Broward tapped into the system's public mission to help motivate its physicians to take an active role in the effort to cut unwarranted lab testing.

"We're a safety-net hospital, and we have a high percentage of indigent patients," Dr. Giffler says. "And our medical staff is very well aware of that and wants to preserve assets to treat the largest number of patients that they can. Doctors read the newspaper every day. They're aware of the situation. And they also want to order the right test and do the right thing."

Here is how the laboratory leadership at this health system went from that big idea to their big savings.

The first step was to design the CPOE system to help reduce practice variation. That process began three years ago with a multidisciplinary committee charged with reviewing the best evidence on testing by disease group and proposing new order sets. A critical ingredient in the Broward process, however, was a second, all-physician committee with approval power over changes to the CPOE system.

This physician advisory committee "represented their colleagues," Serrano says. "We'd frequently go back and meet with individual key players, particularly if they had reasons that they didn't like what was recommended."

Changes were made to the order sets in response to physician feedback, and the data and reasoning used to design the order sets were laid out for everyone to understand.

"The physician advisory committee is ultimately the group that blessed it," Serrano notes.

Among other things, duplicative testing was targeted. The preset cardiac panel, for example, had included creatinine-kinase MB and troponin tests. Under the redesigned system, only troponin is included as part of the standard cardiac panel.

The CPOE system also established test-ordering frequency rules under guidance from the laboratory formulary committee. For example, doctors are now prompted to order comprehensive metabolic panels only every other day, rather than daily.

At a more granular level, lab leaders worked with ordering physicians to set up favorites for common orders so they could get the tests they wanted while skipping others that were unnecessary.

As part of this CPOE project, guidelines for blood product infusion were included in the order sets. The need for the transfusion has to be specified and documented before a blood product order can be placed, while making the appropriate one-click exceptions for emergency cases. Red blood cell and platelet waste reductions alone account for nearly half of the Broward lab initiative's savings.

Meanwhile, that resident who wanted to order those costly genetic tests for the uninsured family was not unique. In the patient safety world, there is a well-documented "July effect" in which a higher rate of adverse events is seen when new residents start practicing. Broward has seen its own July effect in the form of summertime spikes in pricey genetic and molecular testing ordered by physician trainees.

To tackle the problem, the system developed a policy on esoteric testing that was approved by the medical lab directors at each Broward site and by each site's medical executive council. Under the new approach, any nonstandard, esoteric assays costing $1,000 or more have to be approved by the medical lab director or that director's designee.

Insurance prequalification also is required for such testing. And if the need for testing is not acute, it is delayed so it can be done on an outpatient basis where reimbursement is better and community health grants are available to help defray the high costs. This move alone saved $220,000 on inpatient testing costs and brought in another $68,000 in pay when tests were done in the office setting. About two-thirds of the tests were fully reimbursed when ordered that way. Broward has 16 outpatient sites and three urgent care centers.

"Now when we get one of these unusual orders, it's usually preceded by a phone call and preorder documentation," Serrano says. "The doctors still do what they want to do and what they need to do for the patients, but now they help us to get paid for it."

Another $74,000 in savings came from reducing send-out testing. For example, it may cost Broward $12 to do certain panel testing in-house. But many of the system's doctors—about half are employed and about half are in independent practice—were sending them to outside labs for about $700, Serrano says. Those outside labs were doing results interpretation, so in-house pathology interpretation was added.

When it came time to develop the Broward system's laboratory formulary, a teamwork approach again yielded great benefits. The lab formulary committee's voting members all were practicing physicians.

"The lab formulary is going to have very little impact unless there is active engagement with the clinical practitioners by the laboratory," Serrano says. "The lab can't do the formulary for the doctors. The doctors have to do their own formulary."

The committee "became the poster child of how we're going to control runaway ordering," Serrano adds.

All members of the committee are practicing physicians nominated by the various hospital chiefs of staff. That move "created a little bit of an issue in the administration because they suggested some nonpracticing physicians," Serrano says. "But we needed to have people who are actually practicing make these decisions." The administration agreed and the committee was formed.

The committee, which meets monthly, has physician representatives from community health, emergency medicine, pediatrics, surgery, obstetrics and gynecology, family medicine, internal medicine, infectious diseases, nephrology, pulmonary and critical care medicine, and pathology. The pathologists are nonvoting members to avoid any perception of impropriety.

This bottom-up strategy stands in polar opposition to the way that formularies are frequently devised, Dr. Giffler says.

"It's a striking contrast to what often happens in the outpatient world at some of the managed care companies in cooperation with some of the larger commercial labs, where they are coming up with their own utilization formularies from the top down and without input from the ordering physicians involved," he adds.

The committee sorted tests into three tiers. In tier one were the tests—including most routine tests—that any prescriber could order but that may have frequency controls or alerts. The second tier of tests is limited to specialists, senior fellows, or consultants. The third tier consists of tests that can be ordered only upon approval of the pathologist or the pathologist's designee.

In that third tier are, among others, flow cytometry, fluorescence in situ hybridization, and cytogenetic orders. In some of these areas, ordering physicians had taken a shotgun approach that meant big costs and posed a "horrible problem," according to Serrano.

"You might have oncologists who'd sit there and check off every box on the requisition before they even had the bone marrow or had the flow cytometry done," he says.

The formulary committee decided that for such tests it would be up to pathologists to decide which ones to order in accordance with guidelines from the American Society of Clinical Oncology and others.

The final element of the Broward approach is perhaps the most basic and yet indispensable—making pathology a tangible presence in the lives of the other physicians who work in the system. That has taken predictable forms, such as responding to physician requests for test-ordering algorithms that lab leaders drew from Mayo Clinic and ARUP Laboratories and customized for in-house use. But the outreach effort also has included a periodical publication called "Lab Info for Physicians" that addresses common test-ordering dilemmas and profiles lab leadership so that doctors can put a name to a face and know where to go with questions.

Outreach also has meant getting the pathologists out of the lab and onto the floors to be involved with multidisciplinary committees where their expertise can come in handy, says the medical center's lab director Dr. Reineke.

"It's very important that the pathology group embed themselves within the overall medical staff to establish the credibility to be seen as consultants to lead the staff to more efficient utilization," he says. "That personal interaction is very, very important. Once physicians realize that we're really not in this to impede their practice but

to improve the efficiency of their practice, and realize that just like everything else in life tests have costs...then you really get the ball rolling.”
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