Study of inpatient test utilization practices set to begin

Charna Albert

May 2020—Like a top 40 radio hit, test utilization is a topic that can sometimes seem to be overplayed. But the COVID-19 pandemic brings into sharp relief its importance.

“What we’ve seen is organizations that have more mature test utilization efforts in place may be better able to handle these crises,” says Peter L. Perrotta, MD, professor and chair of pathology, anatomy, and laboratory medicine at West Virginia University School of Medicine and director of pathology services, West Virginia University Health System.

Laboratories have long been looked to for guidance on optimal respiratory virus testing for outpatients, he says. Now the guidance is needed for inpatients. “Patients are entering our organizations and they’re requiring COVID-19 and other respiratory virus testing, and leadership is looking to us to decide when these tests are going to be used.”

All the more reason for laboratories to take note of a new Q-Probes test utilization study set to get underway in June.

Dr. Perrotta

“Inpatient Test Utilization and Volume Benchmarking,” written by Ron B. Schifman, MD, and Dr. Perrotta, as a program of the CAP Quality Practices Committee, will help laboratories determine whether their inpatient testing practices are in line with those of their peers, or whether they could benefit from implementing targeted stewardship interventions. Enrollment is open now for the study to be delivered June 8, but the study can be ordered through July 27.

“The idea is you can benchmark your test volume,” says Dr. Schifman, pathologist at the Southern Arizona VA Health Care System and professor of pathology, University of Arizona College of Medicine. Laboratories enrolled in the study will be asked to provide their annual inpatient test volumes for 50 commonly ordered analytes. “Based on the distribution of results, we’ll be able to provide feedback to laboratories about their relative test volumes. Let’s say, for example, a laboratory reports 10 times higher volume of a specific test per inpatient day compared with the median of its peers. That might indicate an opportunity for the laboratory to evaluate potential reasons, such as menu configuration, standing orders, or other factors that could be addressed for improvement,” Dr. Schifman says. Results from the Q-Probes will also inform laboratories about inpatient test volumes that are similar to those of their peers and perhaps not worth further evaluation. The CAP will provide recommendations to participants based on the study’s findings.

Says Dr. Perrotta, “Many organizations are having difficulty monitoring for proper utilization of the analytes that we have included in this Q-Probes. To be honest, there aren’t specific guidelines for most tests, and guidelines for how a test is used are constantly changing.” He cites procalcitonin as an example: “With the guideline changes, laboratories see surges in their inpatient test volume, and they need to make sure procalcitonin use is consistent with the most current guidelines.” Heparin-dependent antibody tests and the serotonin release assay, he says, are other analytes in the study that are sometimes overused.

CK-MB, too, can be a problem. “We’ll probably see laboratories that don’t measure CK-MB at all or very rarely,” Dr. Schifman says, “and others where it’s pretty much the standard practice.” For labs where CK-MB use is still high, peer comparisons may help support better compliance with current testing recommendations, he says.


Dr. Schifman

Amylase blood testing is a similar case. Serum lipase is now the preferred test in cases of suspected acute pancreatitis, Dr. Schifman says, so labs can expect to see a higher number of lipase tests compared with amylase tests. “If we find that inpatient test volume is about equal in some facilities, this information could identify an opportunity to minimize ordering practices for lipase and amylase.” That might be reconfiguring a menu that contains both tests coupled as a single order. Or it could be that education is what is needed, “or there may be other opportunities for labs to adjust their ordering systems.”

In past Q-Probes that have focused on test utilization, the data were likely more difficult to collect, says Dr. Schifman, citing studies of repeat genetic testing and free PSA and hepatitis A testing. For those studies, “You had to look at results, and you had to see if the same test was ordered on the same patient,” he says. The new study follows a different and simpler strategy.

“This study has a different and easier data collection method. All the laboratory has to do is extract annual test volume for a variety of tests, which most laboratory information systems can do very easily for inpatients,” he says. The study also asks for the number of inpatient days per year, which health information or medical records departments typically keep track of, and there’s a short questionnaire on test ordering practices. “The study happens to be relatively easy to conduct,” he says, and it’s his view that the benefits will “strongly outweigh the time it will take to collect this information.” Participating labs will know which inpatient testing practices are in control, he says, and which ones can be adjusted for downstream improvements.

“What we’re really looking for are extreme outliers,” Dr. Schifman says of inpatient test volumes. But he predicts that the more likely outcome for the majority of the analytes in the study is that laboratories will be clustered within a relatively narrow range of ratios. “And that’s a good thing.” Knowing that inpatient testing practices aren’t in need of intervention, he says, is just as valuable for laboratories as learning that an intervention is needed. “That means their testing practices seem to be pretty well aligned with everyone else, and that would be the best outcome. They wouldn’t need to do any interventions at all.”

The study aims to account for variations in intensity of testing, Dr. Schifman says. “We are going to collect data about the general percentages of patients that are acute care, chronic care, and critical care to account for some of the variation, and that will affect to some degree the volume of testing. But since we’re focusing on extreme outliers, such as 10 times higher than the median of a lab’s peer group, that finding would not be caused by levels of care alone.”

The study will be valuable for laboratories that haven’t tackled inpatient test utilization, for labs that are starting to do so, and even for those further along, Dr. Perrotta says. “You will require resources for your test utilization activities, and having this kind of data on hand can help you get the help you need from your organization.”

Many hospitals have a test utilization or lab stewardship committee, and in some hospitals labs report their stewardship activities to C-suite or executive committees. It would be helpful, Dr. Schifman says, to be able to say, ‘“We participated in this study and looked at our inpatient test utilization practices, and using this methodology, we don’t seem to have any significant issues to address.’”

Laboratories that have a test utilization structure in place—a utilization team whose members are from all pertinent hospital areas—will be able to make decisions on the fly more easily when it's necessary, Dr. Perrotta says. "You're able to quickly make changes to your IT system. You're already monitoring test volume, so it's easy to inform leadership how many tests have been performed each day. I think it's very valuable to organizations during these unusual times."

Charna Albert is CAP TODAY associate contributing editor. To order, call 800-323-4040 option 1 (international calls: 001-847-832-7000 option 1) or go to www.cap.org *(click on Shop, Quality Management, 2020 Q-Probes, QP203).*