In ED/urgent cares, the lab tests and the POC team

Charna Albert

December 2023—A point-of-care testing team from TriCore was part of standing up three dual emergency department/urgent care centers in as many years, with a fourth set to open in March 2024.

“They are super busy, as was expected. There’s a great need for this type of site,” says Kathleen David, MT(ASCP), TriCore’s associate director for near patient testing services, which oversees all of TriCore’s point-of-care testing, including that of a large health care system in New Mexico.

The sites differ from other freestanding emergency departments in that they follow a hybrid health care model, developed by a consultant company, that combines emergency medicine and urgent care services under one roof. About 6,000 point-of-care tests are performed monthly at each site—more tests than are performed in some of the health care system’s smaller hospital laboratories.

David and her point-of-care team led POC test implementation for each of the ED/UC sites, which are located in Albuquerque and the surrounding metro area and see 120 to 160 patients a day. The consultant company manages the sites. The physicians, nurses, and other clinical staff are health care system employees, as are the lab staff, who are largely emergency medical technicians and clinical laboratory assistants who complete training on the POC instruments. TriCore point of care oversees the technical and regulatory aspects of the onsite point-of-care testing.

For patients, the hybrid ED/UC model eliminates the need to choose the level of care. Upon arrival, they’re treated by default as urgent care patients, transitioning to acute care if necessary, and they’re billed only for the level of care they receive. “The patient gets an ED acknowledgment so they know they’re being treated at the ED level and not at the urgent care level,” David says. In 2019 and 2020, with two sites open, 70 percent of patients at both sites were treated and billed at urgent care level rates. The current ratio is 40 percent ED and 60 percent urgent care patients.

Typical urgent care centers tend to steer clear of nonwaived devices, David says. But because the ED/UC offers high-acuity testing, they had to build a moderately complex laboratory and obtain a CLIA certificate and have testing personnel with the required qualifications, as well as engage a CLIA medical director for each site and a technical consultant. TriCore’s point-of-care team fills the consultant role.

The test menu, which is standardized across the sites, came together in discussions between the ED and point-of-care teams. Emergency department physicians and others made known what types of patients they expect to see and what they want to be able to treat, and the POC team told them what’s available. “They would love lipase,” but there is no point-of-care device for it, David says. “And there were a couple other tests like that; either it would be prohibitively expensive or there isn’t a point-of-care option.” Those are now stat send-outs.

David

The POC tests provided today are as follows: CBC/diff, mono, glucose, pH, fecal occult blood, breath alcohol, prothrombin time/INR, D-dimer, basic metabolic panel, venous blood gas, lactate, hepatic panel, amylase, troponin, B-type natriuretic peptide, β-hydroxybutyrate, urine drug screen, urine dipstick, urine pregnancy, group A strep, flu

A/B, SARS-CoV-2, and RSV.

Stat send-outs, in addition to lipase, include ammonia, salicylate, acetaminophen, CBC review, body fluid testing, magnesium, phosphorus, ethanol, creatine kinase, heparin anti-factor Xa, and partial thromboplastin time. Lower-priority tests, such as cultures, are sent to TriCore.

The lists of tests change periodically. Initially a β-hCG assay was on the point-of-care test menu but it was removed because it could detect β-hCG levels only up to 2,000 IU/L. “After 2,000 you have to send it out, so we stopped doing it,” David says. Later, new providers said the POC test was useful even with its limitation. “So we brought it back.” Heparin anti-factor Xa was a recent addition to the stat send-out list, and soon carboxyhemoglobin may be added. The ED team reviews order sets regularly, too, removing tests that can’t be run stat or that no longer meet its needs.

In selecting devices for the lab, David and her colleagues first looked at what was already in use in the system’s six hospitals. If no POC device was in use already, the POC team made the decision with input from the ED/UC staff. “We did look at two options for molecular [respiratory] infectious disease, and then we had the lab staff come in and look at both of them and decide which one was easier to use.” The 10 different machines that were chosen can run multiple analytes. Each site has six of the molecular respiratory devices, and multiples of some of the other POC devices.

The devices are interfaced to TriCore’s middleware solution. “The requirement was that they would be able to be interfaced and that there was a bidirectional connection,” David says, so the point-of-care team could monitor the devices, add and give staff access remotely, and ensure testing is successful. The test panels had to be built in the middleware and in the LIS and EHR; once built, the health care system’s revenue cycle team verified billing was correct. And the CLIA medical director signed off on the interface validation.

The point-of-care team is on call 24/7. If the physician decides a result doesn’t fit with the overall clinical picture, they can redraw or send a specimen out for stat testing. And some specimens must be sent out. “For instance, a urine specimen that’s cloudy or bloody would get sent out because we don’t have microscopes or confirmatory testing. We have job aids to help in those situations.”

The CBC requires a complex process, David says, one that instructs how to handle the flags. “That was quite an issue in the beginning,” she says. They now have in place a course of action for every type of flagged result. When a result is abnormal, the specimen is sent out for stat testing, and the ordering provider is informed of the abnormal result and has to acknowledge it by signing a printout from the hematology device, which is then scanned into the patient record. “If necessary, a pathologist would look at it—the same services you would get in the hospital ED. It just takes more time.”

For CBCs, “There really isn’t a terrific point-of-care device,” David says. “There are new POC devices that do CBCs, but there will always be questions about those flags, those abnormal results.”

David led a series of well-attended roundtables on TriCore’s experience at this year’s Association for Diagnostics and Laboratory Medicine meeting. Many hospitals and health care systems are considering the freestanding ED/UC model, she says, particularly as it becomes more difficult for patients to get an appointment with a primary care physician, if they even have one, or otherwise access hospital services.

Though the consultant’s experience was helpful to TriCore, setting up the ED/UC sites wasn’t without bumps. “It was something TriCore had never done before,” David says. “It was something the health care system had never done before, and though the consultant had done it before, they hadn’t done it in New Mexico, and there were some differences with how we wanted them to work from how they work elsewhere. So everybody was learning something new.”

The first ED/UC site opened in June 2019, and the second opened a few months later, in October. “It would have been good to have more space between that first and second site so we could firm up our processes, not just in the lab but the whole site,” she says. “We were still doing lessons learned from the first one.” A third site was scheduled to open in September 2021 but was delayed until March 2022 because of nursing and other clinical staffing shortages.

For the first site, they had only six weeks to get the lab up and running. Personnel training and validation had to be done onsite, and because space was limited, they couldn’t be completed at the same time. “So since then we’ve said we need two months ahead of time,” she says. In some cases they started their laboratory setup work before the building construction was complete. “We’ve had to get a dispensation so we could go in and do that work before they get the certificate of occupancy.” Some training for the later sites took place at the first sites to open, she says. “But because of regulations, we do have to do some of the training onsite.”

Comparing results with those of other laboratories isn’t required under CLIA, but it is good practice and one they follow, David says, because patients may be transferred between the ED/UC and hospital.

A dedicated lab staff keeps the point-of-care laboratory running at each site, though the initial plan had the nurses and other patient-facing personnel testing specimens. “We quickly discovered that was not possible,” she says. “They were having to spend too much time away from patients.” In a more typical point-of-care setting, like a physician’s office, it wouldn’t be uncommon for a doctor to order only one test—an A1C or urine dipstick, for example. “That’s not so difficult to do. It’s one test. But in the lab there are 10 different devices. So a physician could order a CBC and a BMP and a drug screen and so on. That’s going to take time, and you can’t just go in there and put the specimen on a device and leave.”

They do train the nurses to do bedside glucose and occult blood testing, but the nurses don’t do laboratory testing. “There is a person in the lab 24/7, or else it wouldn’t work.”

Staffing the laboratory hasn’t been too difficult despite the severe staffing shortage. “To do even moderately complex lab testing all you need is a high school diploma and relevant training,” David says, so they’re able to hire CLAs and EMTs, and they draw from within TriCore’s ranks. Phlebotomists, for instance, can complete training and staff the point-of-care lab. Hiring nurses and other providers is a different story. “For our third site we had to bring in an outside provider group. And nursing is always difficult.”

Snags can arise when an employee from one site needs to cover a shift at a different site. “They will not have access to the devices because by regulation you have to have a checkoff at each site.” So those who are proficient at one site can’t work at another site without someone from the point-of-care office traveling to the site to complete an additional checklist and give them access to the devices. “And because they’re moderately complex devices, the person to check them off usually needs to be a lab person.”

About a year and half ago they implemented laboratory leads—staff members who handle inventory and ordering, scheduling, and quality control at each site, as well as new-employee training and communication of process changes from the point-of-care office. The lab leads do three shifts in the laboratory each week, with the other two dedicated solely to administrative tasks. “That’s been helpful, to deal with just one person at each site,” she says.

POC devices are “more foolproof” than others, she notes. “We can lock people out if they haven’t done their competency. We can lock them out if they don’t do QC that day, for most of the devices.” Still, for an ED/UC with a point-of-care laboratory, oversight and “eyes on it” are essential.

“If you have non-laboratory people running it,” she says, “you need to have laboratory people help you make sure you follow all the regulations.” A TriCore POC technical supervisor oversees QC, verification, and proficiency testing, and a POC technologist audits each site weekly.

“We find things every day we go in there—and work collaboratively with each site’s staff to have a successful lab.”

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