

Managing Point-of-Care Testing During COVID-19: What We've Learned

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Introduction

What have we learned from COVID-19? The bigger questions may be, why was there so much to learn? Why weren't we, in the point-of-care testing (POCT) community, better prepared, we who have been through the Zika and Ebola viruses, as well as Hurricane Katrina and other health crises?

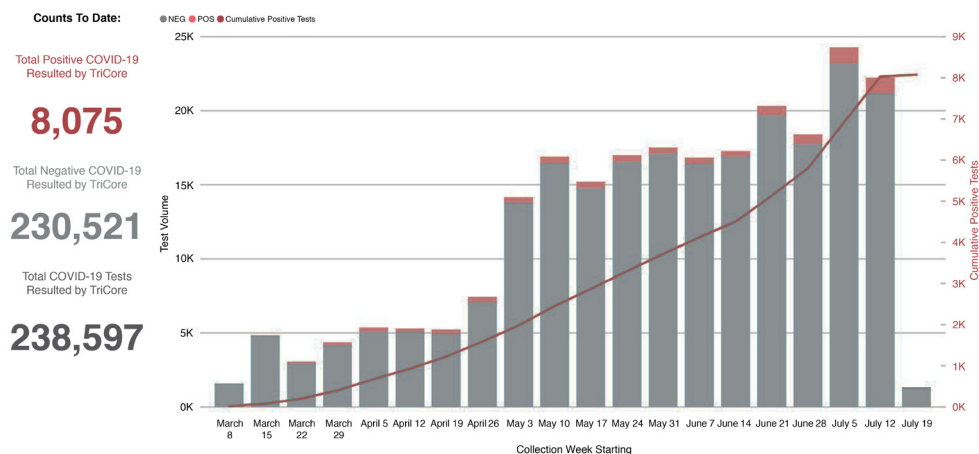
The truth is, there is no one-size-fits-all when it comes to disaster planning. COVID-19 is not Zika, and Zika was not Ebola. It is also true that there is a dearth of published literature or other trusted resources, specifically addressing disaster planning for POCT.

This article attempts to start filling this gap by sharing the experiences and observations of one large POCT operation. The POCT team at TriCore Reference Laboratories oversees 16 hospitals, 64 clinics, two emergency department/urgent care sites, and two

commercial sites across three health systems serving a major region of New Mexico. They have 900 CLIA-waived test sites, 100 non-waived test sites and 600 manual test sites. There are 10,000 operators, 1,300 of whom are non-waived. All told, the POCT team oversees 1.3 million interfaced tests per year. And they have been managing to serve patients well during this unprecedented health—and medical—crisis.

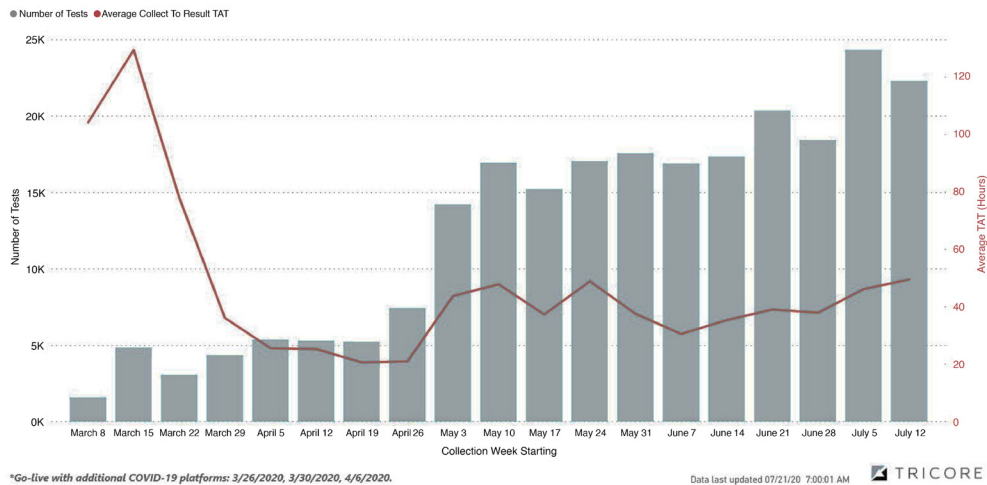
The intent of this article is not to provide answers, but to start a conversation in the POCT community. Asking ourselves better questions now can help us be better prepared for future pandemics and crises. We know they will come, as will further waves of COVID-19, which threatens to make the coming flu season particularly challenging.

TRICORE Cumulative Positive COVID-19 Test Results by Collection Week



TRICORE

TRICORE Average COVID-19 Test Turnaround Time (TAT) by Collection Week



The Unique Challenges of COVID-19

Many healthcare challenges have arisen during COVID-19 that are unique to the nature of SARS-CoV-2. The virus and its pathophysiology have required an unprecedented degree of isolation, physical distancing, minimizing on-site staff and other preventive and protective measures that, at least for TriCore, have meant the following:

- 1. Shortages.** As with POCT teams everywhere, our team has had to deal with shortages of reagents and swabs. Some reagents have gone on allocation. The degree of availability varies among manufacturers. TriCore, as a system, understands the importance of POCT and is trying to ensure that we have some redundancy, so when one manufacturer runs into problems, we have options.
- 2. Limited access to units and clinics for audits, training and competency assessment.** With limited ability to be onsite to assure consistent accuracy of test results, POC teams have a challenge to catch issues that under normal circumstances could be spotted and corrected in person, such as preanalytical errors and gaps in training.
- 3. Taxing the trainers.** Because we are not able to train the way we did pre-pandemic, we have broken larger classes into smaller units

to meet physical-distancing requirements. However, this has meant offering more classes and as a result, our trainers are working more.

Add to that an increased demand on training overall, due to many nurses from closed clinics being redeployed to our hospitals. These colleagues have stepped up to help, but they need training in many POCT areas, such as glucose and blood gas testing—testing critical to COVID-19 and for which volumes have risen dramatically.

Fortunately, some short-term measures have reduced demand on our trainers. For instance, we’re using Facetime on cell phones so an operator can show us what troubleshooting steps they’ve taken to address an instrument issue. Cell phones also allow for demonstrations, whether the POCT trainer is walking through a task or procedure or the trainee is demonstrating back to confirm their understanding.

We’ve also extended competency deadlines. That has reduced some pressure on our trainers. However, the question becomes: How much of all of this can we do continually, and for how long? We are searching for a good answer for that.

4. Knowledge gaps. The general public is reading about COVID-19 testing to stay well informed, but we have encountered many people acting on incomplete knowledge, as a result. For instance, although antibody tests are not diagnostic, clinicians and patients want them. At TriCore, we have had our medical directors intervene in some cases to explain why antibody testing is not always the answer.

Another kind of knowledge gap affects our own ability to track the disease, itself. We have had to redeploy some POC devices, normally used for flu/RSV testing, into clinics. However, we need oversight of the results they generate so that, in those clinics, results aren't being physically written into the patient record and not available in our LIS, and therefore, not available to our epidemiologists.

5. Decentralization. Before COVID-19, most POC infectious disease testing was performed in our reference lab. With POC devices now moving into clinics (and in some cases, tented areas outside the ED), we're looking to start to decentralize testing. This magnifies the concerns regarding training and quality control.

Fortunately, we have an amazing team of supervisors and techs who regularly visit all 16 of our hospitals as well as the clinics and other sites. Not only are they working with the operators at each location; they are also working with IT, a group that has become even more important during the pandemic.

Looking back, what could have gone better? What has gone well?

Room For Improvement

Chain of communication. Communication regarding the pandemic was initially top-down from public officials, not all of them scientists. This caused some confusion and spread false beliefs. Not only did it make people wonder what was true, it made laboratorians look like we were arguing. We need to get better at making our voices heard.

Those knowledge gaps. Although the public now has eyes on the lab, there is still much that people don't know, such as the limitations of antibody and other testing. We need to be better educators, for the benefit of colleagues, as well as patients.

Uncertainty about future requirements. As we consider training and competency going forward, we need to know what the College of American Pathologists (CAP), the Commission on Office Laboratory Accreditation (COLA) and other regulatory bodies will allow digitally. Although this is not necessarily on us, we POCT professionals could be pushing harder for advisement.

What Went Well

Ability to deploy and redeploy devices. The flip side of decentralization was our success in making it happen. We were able to get devices where they needed to be quickly and efficiently, including special situations, such as tent settings outside emergency rooms. At one site, we deployed a device that normally would have taken six weeks to get up and running. Our team did it overnight.

Gaining new levels of respect. While central lab testing volumes have plummeted due to the suspension of elective procedures and other nonessential needs, POCT has continued, uninterrupted. This has led to a higher regard for POCT, among hospital leadership. Now we're part of the conversation and seen as strategic advisers. We are getting non-laboratorians to understand what we must do to succeed. To cite one example, this has enhanced our working relationship with IT, who is working with us to ensure availability of extra ports for extended lab connectivity.

Forming true partnerships with manufacturers. We've also learned a great deal about what is available from manufacturers in terms of devices, especially in the molecular infectious disease testing space. We're calling our account representatives to learn what they can do to help solve our issues, and we're learning about resources they offer that we wouldn't have known about otherwise. This has turned what were already good relationships into real partnerships.

About the Author

Kathleen David is manager for point of care testing (POCT) at TriCore Reference Laboratories in New Mexico, which encompasses 16 hospitals and 64 clinic, urgent care, and ED/UC hybrid sites. She manages a team of five supervisors and 18 POCT technologists. Kathleen's areas of interest at TriCore are forming collaborative relationships with other departments in the laboratory and throughout the hospitals, as well as becoming involved in device research opportunities and population health management initiatives for TriCore within POCT. Kathleen David was honored as the 2019 Point-of-Care Coordinator of the Year by the American Association for Clinical Chemistry.

About TriCore Reference Laboratories

TriCore Reference Laboratories is an independent, not-for-profit, clinical reference laboratory founded and headquartered in Albuquerque, New Mexico, co-sponsored by Presbyterian Healthcare Services and University of New Mexico Health Sciences Center. TriCore provides over 2,900, full-service, state-of-the-art laboratory tests to healthcare professionals and their patients. For more information, visit tricore.org.