Contingency Planning in the Clinical Laboratory: Lessons Learned Amidst COVID-19

Article:
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Randye Kaye: Hello and welcome to this edition of "JALM Talk," from *The Journal of Applied Laboratory Medicine*, a publication of the American Association for Clinical Chemistry. I'm your host, Randye Kaye.

Clinical laboratories remain essential operations to support hospitals amongst the COVID-19 pandemic. Laboratories have faced the need to plan for potential surges of hospitalized patients and simultaneous shortages of laboratory staff. While hospitals may have disaster plans and policies, the COVID-19 pandemic presents unique challenges and laboratorians can learn from each other's experiences as they develop contingency plans. A Laboratory Reflections: Professional Insights article published in *The Journal of Applied Laboratory Medicine* summarizes recommended strategies for contingency planning in the clinical laboratory amidst the COVID-19 pandemic.

The article also provides two supplemental downloadable Excel file tools that readers can use to organize laboratory staff assignments and prioritize test menus. This article will appear in the July 2020 issue of JALM and is available online now. The authors of the article are Dr. Allison Chambliss and Dr. Nicole Tolan. Dr. Chambliss is the Director of Clinical Chemistry and Point-of-Care Testing at the LAC USC Medical Center in Los Angeles, California. Dr. Tolan is the Associate Medical Director of Clinical Chemistry and Medical Director of Point-of-Care Testing at Brigham and Women's Hospital in Boston, Massachusetts. Drs. Chambliss and Tolan are both our guests for this podcast. First question is for you, Dr. Tolan. When and how did your labs begin making contingency plans for changes in operations amidst the COVID-19 pandemic?

Nicole Tolan: So, we started these plans in early March as soon as we got directives, really from the state, for the hospital to shift away from routine elective and non-emergent procedures. At that time the hospital leadership was working closely with our intensivists to outline what the COVID preparations would look like and the testing strategies and then following their guidance from the leadership we began assessing how the surge preparations could really have a large impact on the

clinical laboratories. Now, we recognize that the potential for COVID-19 surge may have really passed at this point, but we had put these plans in place pretty early on and they can be re-enacted if we see resurgent in the future or some other emergent disaster.

Randye Kaye: Great. Thank you. Now over to you Dr. Chambliss. Your article mentions planning for increases in testing volumes for some tests, but decreases in demand for other tests. Can you explain this contrast and provide examples of tests that may go into each category?

Allison Chambliss: Sure. So, Dr. Tolan mentioned that her hospital was shifting away from those routine elective and non-emergent procedures, as was ours, and routine preventive wellness check visits were also being deferred. So, in the lab, we started seeing declining testing volumes in things like vitamin D and TSH and we also saw declines in orders for serum and urine protein electrophoresis, so we would occasionally close the electrophoresis bench for the day if the volume didn't warrant running a batch. And so, these are the types of tests where results are not needed rapidly to support inpatient care and so they could perhaps be deferred or delayed if needed especially if there is a shortage of laboratory staff.

Now on the other hand, because we know that we had to maintain and prioritize to support inpatient care, particularly rising numbers of COVID patients, included tests like blood gas panels, complete blood counts and electrolytes, inflammatory markers like CRP. In these types of tests, we did not see declines in test volumes, so we made sure to keep those bench areas fully staffed. And so now that more information is coming out regarding treatment protocols for COVID patients, this can be helpful in addition to consulting with hospital leadership to determine which types of tests will need to be prioritized.

Randye Kaye: All right. Thank you. Now labs, they might have concerns for staffing shortages with potential exposure and required quarantines. So, what strategies have you come up with to maintain the laboratory workforce? We will start with you Dr. Tolan.

Nicole Tolan: Sure, as I mentioned earlier, really following the state DPH and local government directives regarding social distancing along with our own departmental instructions for working remotely when able, we outlined a plan to organize the laboratory work force into two groups alternating weekly basis who was on site and who was working remotely, and this allowed us to prepare for staff exposures and mandatory quarantines that were thought to come. This essentially created a pool of laboratory staff who were working remotely, practicing social distancing of course, but were able to be

called in when we had on-site staff call out and this was particularly essential on the off shifts where staffing were already running at a limited capacity.

Allison Chambliss: Yeah, so we also thought about how we could recruit more hands to help out in the lab if the staff numbers declined. So, this included we actually cross-trained the anatomic pathology lab staff who were not as busy in their testing areas due to those cancellations of elective procedures. And we also trained pathology residents to work as lab assistants and to collect nasopharyngeal swab for COVID RNA testing. So as a bonus this actually proved to be a great educational experience for the pathology residents in a time where their conventional style learning was on a bit of a hiatus.

Randye Kaye: Wow, very interesting, thank you. I'm sure that's really helpful. Now your article includes two supplemental downloadable Excel files. Dr. Tolan, can you explain to the audience how these tools work and how they might find them useful?

Nicole Tolan: Sure. These are pretty basic tools, something obviously more sophisticated could be developed, but they were helpful in quickly evaluating and prioritizing the essential testing that we needed to maintain throughout this COVID pandemic. It also allowed us to plan for testing volumes according to the hospital surge preparations and what we may see coming down the line.

In the first document, we've shown an example of assessing the testing areas in the chemistry laboratory which can be customized to any other section within the laboratory. And we did this across all shifts, prioritizing them in terms of emergent testing during the COVID-19 pandemic and then also determining the number of staff required to maintain that testing. So, we incorporated this into our daily huddle, just to kind of assess what testing areas to staff and to communicate minimum staffing needs in terms of the total workforce to the hospital leadership. In the second document, we've highlighted the testing needs derived from, in particular, the brighamandwomenscovidprotocols.org clinical guidelines to assess how many tests we may have needed to accommodate if we were to hit our peak surge capacity. Both of these resources, as you mentioned, are free to download, to modify, and to incorporate in any site-specific testing needs for capacity planning.

Randye Kaye: Wonderful. And lastly, do you have any final recommendations for laboratories working on their contingency plans, Dr. Chambliss?

Allison Chambliss: Well, I think Dr. Tolan and I would both emphasize the importance of communication throughout all of this

contingency planning. So firstly, it's important to communicate within the lab itself to monitor testing volumes and staffing levels and communicate those staffing plans for the day because they can really change rapidly. It's very difficult to anticipate in advance. So, if staff are socially distancing, this communication could be in the form of daily Zoom huddles or by simply using emails with all the stakeholders included, and that first Excel tool that Dr. Tolan described can really be helpful with that. And then of course once the lab assesses its own situation, they must continue to update the hospital and clinical leadership outside of the laboratory of their status, including highlighting any tests that might be unavailable that day or could be delayed.

Randye Kaye: Thank you so much and thank you to both doctors for joining us today.

Nicole Tolan: Thank you.

Allison Chambliss: Thanks for having us.

Randye Kaye: That was Dr. Allison Chambliss from LAC USC Medical Center and Dr. Nicole Tolan from Brigham and Women's Hospital describing their JALM article, "Contingency Planning in the Clinical Laboratory: Lessons Learned Amidst COVID-19." Thanks for tuning in to this episode of JALM Talk. See you next time and don't forget to submit something for us to talk about.