COVID-19 Evidence Accelerator Collaborative

Diagnostics Evidence Accelerator #20

Thursday*, December 3, 2020, 12:00-1:00PM ET*

Call Summary

Introduction to Diagnostics Evidence Accelerator Meeting 20

This week's Diagnostics Evidence Accelerator meeting consisted of 2 presentations.

1. COVID-19 Testing Strategy at Colby College (Doug Terp, Colby College)
2. Testing in K-12 Schools (Leah Perkinson, The Rockefeller Foundation)

COVID-19 Testing Strategy at Colby College (Doug Terp, Colby College)

The top priorities that were identified by Colby College were health and safety of the community, highest quality Colby education which requires an interaction between teachers and students, and enrichment activity that create the Colby experience. Their operating principles are to keep it simple, be nimble and prepared to adapt, and be guided by science. In order to accomplish their priority, there were many collaborators involved. In order to protect their community, their efforts included health management and support for students and staff. Under their health management component, there were pre-arrival testing within the first two-week for early detection to create a clean campus to start the semester and surveillance testing of students, faculty, and staff twice per week. They conducted contact tracing, quarantine, and isolation protocols; health Level and code system, regular monitoring of campus, local and regional trends; on campus flu vaccine clinic; health education and self-administered and observed testing; and daily self-assessment app with centralized review and tracking which allowed the campus to conduct outreach to students and staff if they exhibited more than one symptom.

The support component consisted of outreach to identify at risk community members, medical and mental health support ad isolation and quarantine support. The addition of off campus housing accommodated students and staff for quarantine. Their mitigation activities consisted of facial coverings required on campus, enhanced cleaning protocols, hand sanitizer stations, PPE and other supplies usage, signage (wayfinding and health), interventions (e.g., partitions/plexiglass, ventilation), room capacity (analysis, posting), mix of in-person/ hybrid (75%) and remote (25%) classes. Colby College maintained aspects of normalcy on their campus by allowing students to eat in dining halls, stay in campus housing, and participate in sports. However, they did limit only tested individuals to access the campus. The goal was to create a campus environment to only include the people that they knew were testing, so they could have a good sense of the health of the campus.

In respect to testing, Colby College worked with Dr. Michael Mina and his team to model different simulations for frequency of testing. They conducted simulations for various testing strategies,

mitigation and community infection scenarios. Through these simulations they learned that testing every three days will likely reduce the rate of transmission. Colby College partnered with Broad Institute to obtain test materials and technology tools for management and tracking. They used self-administer PCR tests for high accuracy rate for surveillance which had a 24 hours result turnaround time. The combination of the test accuracy, testing frequency, and turnaround time, along with internal capacity for contract tracing and isolation/quarantine, provided them with confidence in the surveillance regime. They conducted sensitivity analyses using data from Florida as a comparison to evaluate the effectiveness of testing and mask wearing at different community infection rates.

Their testing procedure consisted of the patient setting an appointment. Then the patient visited the campus testing location and confirm their ID. Once their ID is confirmed, a printed barcode would be applied to the test tube which the patient would take to their observing area and provide a sample. The results were sent to a lab in Boston, MA twice a day and all results were received within 24 hours of delivery to the lab.

Data from their administrative platform, Jenzabar, flowed into The Broad Institute's CareEvolve. The test results flowed into the CoVerified platform, then into their SQL Server. Finally, it flowed into tableau which provided them with a database for their campus. They have a health group that meets daily to review the data and provide recommendations.

Their external dashboard shows negative tests, positive cases in isolation, positive cases recovered, inconclusive tests, students in quarantine, positive cases. The dashboard breaks down the number of positive cases by faculty and staff and students. Their internal dashboard shows nationals and state trends. It also showed their capacity for isolation, symptom severity, quarantine test data, and isolation test data.

They had 115 people in quarantine during the fall semester and there were only 2 people that tested positive and both tested positive within two days after exposure. In the subset of the positive people, there were 27 people that tested positive and 16 people had tested negative on their next test. However, there were only 4 people that exhibited COVID-19 symptoms. In order to monitor the COVID-19 pandemic on campus, they used a code system which allowed them to make decisions for the wellbeing of their community.

Their plans for the winter and spring semester include adding a rapid antigen test, increased focus on symptom tracking and education, and discussing ideas to combat COVID fatigue. Also, they are hoping that Broad (and other labs) will be authorized to provide CT values, which would provide additional information about campus health risk. Finally, access to rapid testing and affordable testing options will increase feasibility for many institutions, schools, and employers.

If accelerators have additional questions regarding their process, they can reach the researcher at Colby College, using their email addresses: Doug: dcterp@colby.edu; Richard: ryuchida@colby.edu; and Stephanie: shsylves@colby.edu.

Testing in K-12 Schools (Leah Perkinson, The Rockefeller Foundation)

The Rockefeller Foundation has six pilot sites that are using BinaxNOW. The sites are Rhode Island; Tulsa, OK; New Orleans, LA; Louisville, KY; Los Angeles, CA; and a jurisdiction that has not been announced yet. All of these sites are using PCR tests as confirmatory testing. The goal for the pilot is to

test out [risk assessment and testing protocols](#) drafted by Johns Hopkins and Duke-Margolis that were released in October. They wanted to see what the feasibility and acceptability of assessing risk and being able to test according to that risk. The sites were selected based on their partnership with The Rockefeller Foundation and their willingness and motivation to participate. The Rockefeller Foundation and HHS signed an MOU to obtain BinaxNOW tests. Once those were obtained each site received 20,000 tests.

The Rockefeller Foundation meets with city stakeholders on a weekly basis and the authors of the protocol on a biweekly basis to provide technically assistance to city stakeholders. One lesson they learned is developing a model that they can scale takes time. In terms of planning, there is a lack of tactical guidance and end-to-end technical assistance makes planning challenging. In terms of uptake, it is difficult to balance the urgency of this work while "moving at the speed of trust," ensuring that protocols are acceptable place-based takes time and some school boards require evidence that Binax NOWs perform well with asymptomatic youth. In terms of execution, many schools are not open for in-person learning making it hard to test out the protocols. There have been operational challenges to setting up testing in schools and point-of-care tests require a different workflow compared to PCR.

Other key learnings include schools need more tactical tools and resources, PPE requirements for asymptomatic testing is unclear, and it is difficult to quantify and communicate risk at the school level. Also, the recommended testing frequency may not be feasible and there is uncertainty about what institutions should play what role (e.g., is it the responsibility of the state education agency to identify and share best practices for testing in schools?). Other lessons learned include: successful reopening depends on ensuring that adults feel safe, obtaining a CLIA wavier can be a complex and time consuming process, there is uncertainty about how to create new systems that are dual purpose for testing and vaccine deployment and in at least one city there is clear demand for rapid testing (community testing sites tested four times the normal number of people after the announcing the use of Binax NOW at these sites) a relationship between city officials and union is key too. In some settings, parents and teachers are concerned about safety and the different test types and processes. Also, if there is a 3rd party that is running on-site testing, schools may not increase their own capacity to sustain testing in the long-term. Some communities may find using the rapid antigen test difficult since the lab-based PCR and antigen test have different workflows and antigen tests require personnel to collect, analyze and report. Testing on campus is essential especially for underserved communities since school is often a place where these students get supports that they may not get at home (e.g., free lunch). Teachers want site specific testing data (e.g., air quality); the lack of robust data infrastructure to track and report data adds an extra burden to schools who are doing POC testing.

Discussion:

The presenters were asked the difference in the performance of the test for an individual compared to the performance of the test as a testing strategy. Colby College approach was to obtain a test that had low sensitivity but provided test results faster. This would ensure that people that were positive would not go into the community and infect other people. The Rockefeller Foundation agreed that it is better to have consistency in the test used and not introduce variability in the tests.

From the Chat Box

- The Regenstrief Institute stated that we need more data to accurately assess mask wearing behaviors! They have developed an App to provide researcher with real-world observations. The link

for downloading the application is https://www.maskcount.com/. The Regenstrief Institute asked the accelerator community to help them generate scientific evidence that may help them understand how to reduce the spread of COVID-19. They are currently looking for observers and potential research partners.

- An accelerator asked if there is regular communication amongst smaller, private colleges to share best practices in testing strategy, e.g. testing frequency, type of tests, etc.?
  - To answer this question, the presenter stated that roughly 25 CFOs from private institutions met over summer/fall to share ideas; there were similar groups of Provosts/Deans of Faculty, Deans of Students, and Health Center Directors who met regularly to share questions, ideas, and best practices.
- Another accelerator asked the presenter if they could discuss what data they provided to Maine Public Health and how you transmitted the data? Also, if they can speak to how the faculty respond to teaching in 2 different mediums: live and remote. The accelerators educator friends, albeit primarily in the primary/secondary level, talk about the difficulty and burden on teachers. Do we have any evidence on the effectiveness of teaching in hybrid models? I know this question is a little off-topic for the evidence accelerator, but it does impact the need to specific testing and isolation strategies.
  - The presenter responded by stating that the Broad reported positive cases to Maine CDC. They also shared investigations/contact tracing information as requested by Maine CDC.
  - The presenter stated that it was admittedly difficult for faculty to teach in 2 different mediums. As a result, we provided flexibility to teach remotely, solely, or in person, solely, or "hybrid". That seemed to help those who were challenged by teaching in 2 different models. We don't have hard evidence on hybrid teaching, but as an anecdotal matter, faculty report better attention and attendance in person. One interesting piece of evidence: Students are normally quite talkative in in-person classes, are not as vocal in virtual classes; and vice versa.
- A caller asked if the presenter ran into any supply chain pressure on swabs or other reagents? Do you see that shifting with the increasing national caseload?
  - Colby College did have enough supplies for testing their students and staff.
- An accelerator asked a follow up question of if the reporting including reporting positives from the rapid tests?
- Another accelerator asked if the presenter learned anything about students and asymptomatic infection?
- One accelerator was curious to know what sort of concordance the presenter from The Rockefeller Foundation is seeing between a positive BinaxNow test and confirmatory PCR test.
  - The presenter stated that there may not be enough data to be able to distinguish between the tests.
- An accelerator wondered if there is an agency that is tasked with leading guidance and resources to schools such as Dept of Ed, FDA, CDC or all of the above.
  - Another accelerator pointed out that schools are directed at the local level. In Maryland it is at the county level, but in most states, it is at the town, village, and municipality level.
- Another accelerator asked if there is a federal role in helping to improve communication or provide resources states can use to address the "guidance and resources" concern?
  - One accelerator responded stating that they are unfamiliar with the structure of state vs. federal, but it seems like an opportunity.

- One accelerator states that this is a hard problem, since school decisions need somehow to take into account business opening decisions. The authority for these two sets of decisions is often different (county decision for school vs state decision for business, for example)
- An accelerator asked how will the strategies change once we begin to vaccinate? Should states opt to make teachers and school employees a priority cohort for early vaccination?
  - The presenter stated that guidance is changing every day and the discussion of vaccines has not occurred yet, but the discussion of vaccines is an important part of the program.
- An accelerator stated there are few studies that have shown decreased sensitivity of BinaxNow in children <16 yrs. How is Rockefeller responding?
- One accelerator stated that their county is struggling. Schools are closed, but the highest rate of positivity that we are seeing in testing, county-wide, is in folks less than 20 years old! (9% positive, v 6% county-wide).
- One accelerator asked what were accelerators thoughts on using Wastewater-Based Epidemiology on the population to guide targeted testing on individuals or groups of individuals.
- Another accelerator stated that for RWD/RWE, this means instrumentality in the variable describing manufacturer - implications for analyses.

Next Steps

- Continue making data connections through the Evidence Accelerator.

Next Meeting: Thursday, December 17th , 2020 12-1 pm ET