

THE



SUN

Price \$4.00. Our 183rd year, No. 110

baltimoresun.com

Sunday, April 19, 2020

CORONAVIRUS
IN MARYLANDRobots to
speed up
Maryland
testingBut state and nation face a
shortage of swabs to collect
samples from residentsBY MEREDITH COHN
AND LUKE BROADWATER

As the coronavirus began stampeding across Maryland in recent weeks, scientists tucked away in a University of Maryland research lab in Baltimore got an idea about how to put their high-tech robots to use.

They could retool the machinery and significantly increase Maryland's capacity to test people for COVID-19 — testing that will be critical to any plan to eventually "reopen" the state.

The robots can significantly expedite the complex process of analyzing samples taken from Marylanders who get a prescription to be swabbed. The machines can search for the virus' genetic material in many samples at once.

"We knew we could do a lot of tests very quickly," said Jacques Ravel, associate director of the Institute for Genome Sciences at the University of Maryland School of Medicine.

The state — which is currently testing about 3,000 people a day — jumped on the offer. The university lab will begin adding tests in coming weeks that eventually could add roughly 20,000 to the daily total.

But for all the scientific fire power, there's a hitch. In Maryland and elsewhere, there aren't enough basic cotton swabs to take samples from people's noses and throats. The lack of these supplies may already be limiting the number of tests performed at other labs in Maryland, including one at Johns Hopkins Hospital, and across the country.

There are other problems mucking up the works, including lack of other supplies such as the agents used to transport and process samples. More lab capacity is needed, too, and more money to pay for it all.

But the dearth of swabs is causing states to scramble, and last week led the U.S. Food and Drug Administration to seek an accord with private firms and foundations to produce a polyester-based Q-tip-type swab in bulk.

This week, Gov. Larry Hogan is expected to begin to outline the steps in his plan to eventually end some of the restrictions he's imposed over the past five and a half weeks to limit the spread of the deadly virus. It is sure to involve stepped-up testing.

Maryland has tested more than 65,000 people so far, with more than 12,300 confirmed cases and 463 deaths.

Compared to other states, it's not a bad record. Only about 15 states have done more testing than Maryland, including much larger and harder hit states such as New York, California and Florida.

Among states of similar population, Maryland has been outpaced by New Jersey and Massachusetts, both hot spots of the pandemic, and Tennessee, which despite its greater testing has identified fewer cases than Maryland.

Still, the bottlenecks in testing are a factor in preventing the nation from reopening, officials say. If testing is widespread and people who test positive are isolated, as well as anyone who has been exposed, then others can leave home and return to school and work.

Hogan has said the state needs to test more than 10,000 people a day for the coronavirus before he can consider lifting restrictions of businesses or gatherings.

That's more than three times the current rate.

In livestreamed remarks Friday to the pro-business Economic Club of Washington D.C., the Republican governor said testing needs to show two weeks of decline in the number of serious cases before restrictions could begin to be lifted. Cases in Maryland were still increasing last week.

"We slowed the growth," Hogan said. "We blunted the curve but we are unfortunately going up. ... We believe we're getting close to the peak in the next week or so."

Hogan said officials would be specifically watching the number of deaths and hospitalizations to know whether the state is getting the virus under control. They want to see 14 days of lower deaths and hospitalizations, not necessarily overall cases, which will rise as testing increases.

Once those numbers decrease, lifting of restrictions would need to be done gradually.

"None of the governors believe you can just flip a switch," Hogan said. "I think we'll gradually start easing things off when we believe it's safe to do so."

State Sen. James Rosapepe, a Democrat who represents Anne Arundel and Prince George's counties, said the Hogan administration is right to try to ramp up testing and tracing capabilities quickly.

"We're likely to have vaccines in 2021," Rosapepe said. "That's a long way away. We don't want to wait. The faster we can scale up testing, tracing and quarantining, the faster we can get Marylanders back to work. What nobody knows is: How fast can we do it?"

Rosapepe has been researching the cost of such a testing and tracing operation and believes the state can put in place a robust tracing program — tracking down the people who have been in contact with an infected person — relatively cheaply. He worries, however, whether the costs of widespread testing are affordable without federal funds.

"I'm very confident we can get to the levels of testing we need," Rosapepe said. "But we really need a massive federal investment to scale-up testing if we're going to get Maryland and the country back to work."

To lift restrictions, and keep a handle on new cases after people begin to return to their normal lives, researchers at Johns Hopkins University say there need to be 750,000 tests nationally a day. The nation is now performing about 125,000 to 150,000 a day.

That means gathering samples when people seek care in hospitals or even doctor's offices, the researchers said in a report released Friday by the Hopkins Bloomberg School of Public Health. Testing will also have to expand to people who don't have symptoms.

Most testing now is being done only on patients with respiratory symptoms like coughing or trouble breathing and fever, as well as medical staffs and first responders.

Hospitals are collecting most samples, and the diagnostic testing in Maryland is being done by the state health lab, private labs including Quest Diagnostic and Lab-Corp, plus the University of Maryland Medical Center and other hospitals.

Hopkins has been a testing leader with 350 to 650 tests a day. Officials say they could test up to 1,000 a day but are not getting that many samples.

"We are testing what we receive," said Dr. Karen Carroll, director of the division of medical microbiology at the Johns Hopkins University School of Medicine. "We suspect that current volumes will likely increase, especially from our hospitals near the D.C. area."

Hopkins is receiving samples from outpatient tents run by hospitals in its system, as well as from other hospitals in the greater Baltimore area. The daily count varies because the tents aren't open on weekends.

But the lab is also facing shortages in supplies, including testing agents and swabs.

"Swabs are now an issue nationally," she said. "Manufacturers have promised more inventory. The need for high volume testing will continue."

At the University of Maryland, robotic equipment and other testing supplies will be coming in for the next four weeks and staff is being added, partially funded with \$2.5 million from the state.

The lab in February bought the COVID-19 test developed by the U.S. Centers for Disease Control and Prevention and began the process of seeking federal approval to perform such tests.

It began recalibrating equipment, training staff and developing a process to take in and return the results, which still must be ordered by a doctor. Ravel expects that will change as testing becomes more widespread.

The lab plans to use more than one kind of test so if there are shortages with one it can substitute another. It's been working with the School of Medicine's Department of Pathology and is just beginning to process some samples.

These tests will be on top of the samples already processed by the affiliated University of Maryland Medical System and its 13 hospitals.

"The big shortage is still the sampling device, the swab," Ravel said. "There just are not that many on the market. It's limiting testing."