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RapidBio has flourished as a product of the pandemic. What happens next?

DUSTIN WALSH

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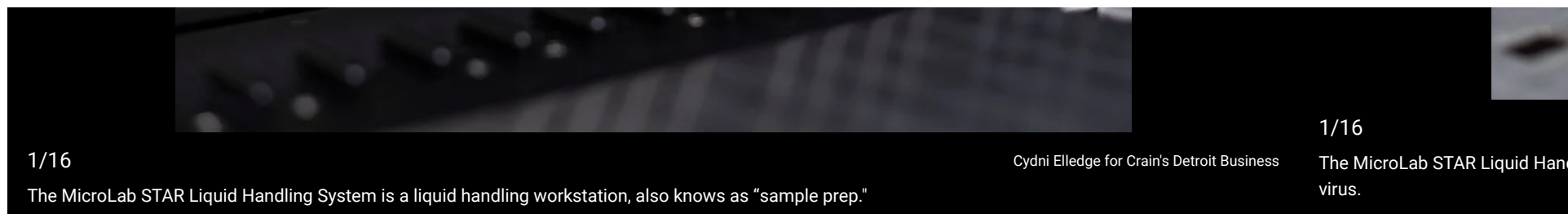
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The signs read "Animal Holding" and "Necropsy." The former Pfizer facility at Commerce and Beck roads in Plymouth Township used to house mice used in pharmaceutical research and development. Esperion, via Pfizer, brought its popular cholesterol-lowering drug Lipitor to market from inside the building.

Now John Cunningham, a 6-foot, 10-inch serial entrepreneur specializing in biosciences, races through the dark hallways filled with buzzing fluorescent light, ducking under industrial doors.

The CEO of COVID-19 testing lab startup RapidBio works out of the former mouse cage washroom. It now houses Alexander Hamilton and Ringo Starr — two playfully named robotic machines used to separate and mix human respiratory fluid samples with reagents into cold plates for testing.

The building may be old, but everything Cunningham has put into it — from the machinery to his experience running a lab during the pandemic — is new. "COVID-19 is a black swan event," he said. "There was opportunity in the uncertainty."



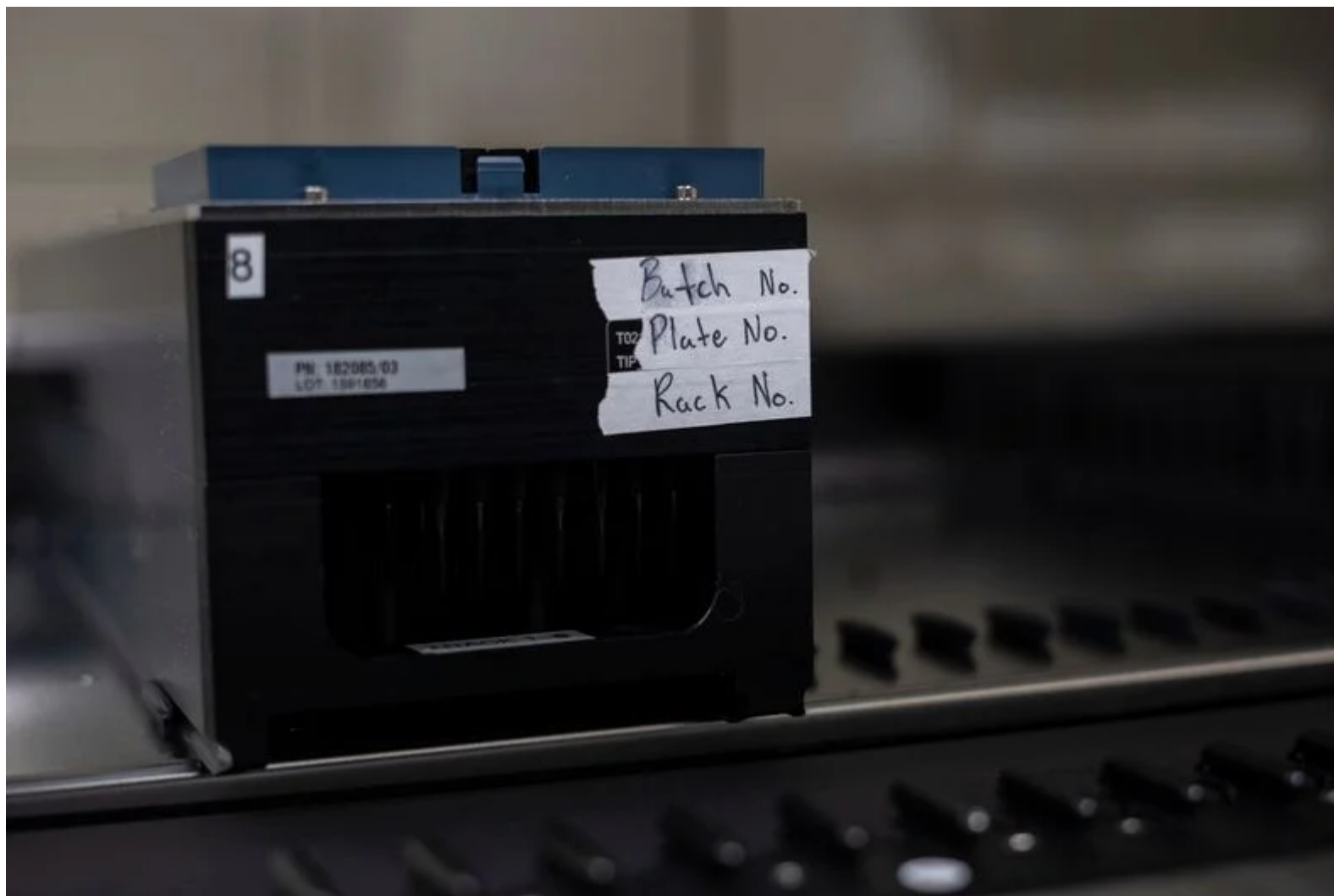
Cydni Elledge for Crain's Detroit Business

CEO of RapidBio John Cunningham.

Thus far, Cunningham has capitalized on that opportunity. RapidBio generated more than \$11.5 million last year from its drive-through COVID-19 test site around the corner at the U.S. Hockey Arena on Beck Road and through its contracts with 60 independent pharmacies and testing sites in Southeast Michigan. The startup performed 156,000 tests in 2021

and about 15,000 tests last week. That's down from 20,000 the week prior in response to the swift rise of the highly contagious omicron variant.

With hopes the pandemic shifts to a more predictable endemic in the coming months, Cunningham not only wants to keep the lab and his startup alive after COVID-19 is gone, but for RapidBio to thrive using the new technologies created to detect and monitor the pandemic. Cunningham is investing returns into new uses for the company's polymerase chain reaction (PCR) testing capabilities to detect sexually transmitted diseases, urinary tract infections and antibiotic-resistant infections.



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The MicroLab STAR Liquid Handling System.

Testing a new market

Cunningham quit his job as COO of TechTown resident Functional Fluidics in April 2020 to launch RapidBio —a gamble on his ability to raise capital and launch a lab as the pandemic engulfed Southeast Michigan.

"When COVID hit, everything was shut down, including our company," Cunningham said. "I was depressed for a week then I realized I had the time to start a high-capacity clinical lab."

Thanks to federal response to the pandemic, Cunningham was able to secure an Emergency Use Authorization license to operate a testing lab in 10 days in April 2020. It usually takes at least six months, he said.

An experienced fundraiser, Cunningham quickly raised \$1 million from friends and family and another \$1.5 million from a group of investors led by Windsor doctor and diagnostic radiology practice owner Manish Chadda.

He then secured space at the Michigan Life Science and Innovation Center, which began life as an R&D facility for Unilever soap maker Diversey Lever Inc. The firm built the building at Commerce and Beck roads in Plymouth Township 30 years ago. Pfizer acquired the building in 2000 before it abandoned operations across the state. The Michigan Economic Development Corp. reopened the facility in 2008 as the life sciences incubator it is today.

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More than 60 companies have "graduated" from the incubator, including Algal Scientific, which grows algae for human and animal nutrition, water filtration firm Digestive Organics and bone tissue regeneration firm Tissue Regenerative Systems.

Cunningham moved RapidBio into the building in June 2020 and spent the next six months validating his testing procedures.

"Our quality process manual is about 4 feet wide," Cunningham said.

By November 2020, RapidBio began testing, signing a contract with U.S. Hockey to test youth players to restart training and games at the arena. The arena then became a popular testing site for high school athletes who required weekly testing during sports seasons for part of last year.

It's also open to the general public, and the company has been increasing its capacity through contracts with independent pharmacies and lab testing businesses.



Cyndi Elledge for Crain's Detroit Business

The stock room at RapidBio holds all of the necessary equipment needed for day-to-day operations.

So many swabs

COVID testing has turned into a financial windfall for test kit makers, testers, labs and hospitals.

Abbott Laboratories, maker of the popular at-home COVID-19 test BinaxNow, recorded revenue of \$1.9 billion in the third quarter of 2021, up 48 percent from the same period in 2020. The BinaxNow test kits alone accounted for \$1.6 billion of

those sales. Quidel, which makes the QuickVue at-home test, reported revenue of \$406 million from its home kits in the third quarter of 2021.

The windfall is now going to extend to Kroger, Walmart and other retailers as their agreement with the Biden administration to sell test kits at cost for 100 days expired this month. Prices are already rising.

This month, the White House issued an order requiring insurers to cover COVID-19 diagnostic testing, though most already were. That's beneficial to PCR test-takers like RapidBio, which largely doesn't charge consumers for tests. Tests are paid for by private health insurers and from money from the \$2.2 trillion federal Coronavirus Aid, Relief, and Economic Security (CARES) Act.

Cunningham said private insurers cover about 90 percent of all tests given at its sites, though they are now asking testing sites to distinguish between diagnostic testing for active infection versus screening testing for individuals who wish to travel or gather in large groups. Diagnostic testing is typically prescribed by a physician. RapidBio is updating its website registration to be able to distinguish between the reasons a person wants to get tested.

Last year, RapidBio averaged about \$73.72 per test administered out of its 156,000 total administered tests. At that price, RapidBio should generate more than \$1 million in revenue this month alone.

But much of its sales is eaten up by medical products, such as swabs and test tubes for specimen collection.

RapidBio carries about \$500,000 in plastics in its storage room — syringes, swabs, masks and pipette tips from floor to ceiling.



Cydni Elledge for Crain's Detroit Business

Andrea Lobsinger, molecular technologist at RapidBio, prepares the reagents that will later go through the PCR machine.

From COVID to convalescence

Cunningham has hired Shruti Bagla, a former research scientist and genomics consultant at Children's Hospital of Michigan in Detroit, to lead RapidBio's product development and expand the company's reach beyond COVID-19 testing.

In recent months, the company has expanded to 65 employees and is attempting to ramp up to 130 in the first quarter of this year.

Bagla is performing R&D with the company's PCR machines — which are able to find five genomic copies of the coronavirus among hundreds of thousands of cells — to find alternative uses for different infection testing.

PCR machines can sequence the samples in only a matter of days, compared to the traditional validation methods that take upward of two weeks. This presents the ability to find genetic mutations in cells and identify diseases in fetuses earlier, among other uses.

For now, though, the company is signing contracts with physicians' offices and nursing homes to identify STDs and urinary tract infections, a surprisingly lucrative business due to the aging population.

Competitors Orchard Laboratories in West Bloomfield, which performs COVID testing for the Oakland County Health Department among others, also expanded into the same area.

Its non-COVID-related growth has also been exponential. For example, in the first quarter of 2021, COVID infections fell after the fall and winter surge in 2020, and testing needs plummeted. But Orchard Labs managed to have the **best first quarter** in its eight years in business, Crain's reported in September.

"We always segregate the COVID numbers out of our planning," said Faisal Ahmad, vice president of Orchard Laboratories. "We know that's not sustainable, but we continue to use it as a way to leverage relationships."

The company is looking toward major expansion efforts, including a direct-to-consumer product similar to the genetic testing for 23andMe, but for medical conditions such as high cholesterol or other common lab tests.

RapidBio expects to stay in the diagnostic testing lane, Cunningham said. "We want to be a precision diagnostics company and grow it much, much larger," he said.

Those new molecular tests could shorten the time it takes to grow bacterial cultures, which could, for example, help long-term care facilities more precisely treat infections like UTIs and avoid antibiotic resistance.

"We can help physicians diagnose what the disease is and what the bug is and what antibiotic will work and what won't work, Cunningham said. "That has a huge impact on reproductive health."

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