Stephen J. Acquario
Executive Director
NYSAC
Travis O’Donnell
K–12 COVID testing
New York State Association of Counties
August 2021
Ginkgo Bioworks Redirects Its Biotech Platform to Coronavirus

Startup valued at around $4.2 billion shifts resources to pandemic fight
Our mission

To make testing accessible to every school in America, every week — because everybody’s health is connected.

Our COVID-19 classroom pooled testing program is helping schools safeguard the health and wellbeing of teachers, students, and their community.
Concentric by Ginkgo currently runs full service K12 testing programs in states and major school districts across the country.

Ginkgo has developed a comprehensive program designed solely for affordable and seamless testing in K12 settings, utilizing local resources.

- Contracted with districts or schools
- Advanced contracting
- In discussions
A few of Concentric’s programs include:

**Massachusetts: Statewide classroom pooling program**

The Boston Globe — 1.8.21
Baker announces coronavirus pool testing to be made available to all Massachusetts public schools

- Weekly testing for every classroom
- 350+ schools
- 120,000+ students

**Maryland: Testing in Baltimore & Montgomery Counties**

- Maryland’s Largest School District

**California: Testing in multiple school districts**

- **Los Angeles Unified School District:** Begun initial pilots
- **Poway Unified School District:** Weekly testing commenced for athletics
- **Los Altos School District:** Weekly testing for athletics commenced

Maryland’s Testing Program: McPS will conduct ‘surveillance’ testing for COVID-19 in reopened schools
A few of Concentric’s new programs include:

New Hampshire: Statewide program announced in June

- New Hampshire DHHS utilizing state-allocated funding from CDC to fund program
- Program available for children and staff in schools, overnight camps and some day care centers.

Arizona: Statewide classroom pooling program

Weekly testing for every classroom
- 2,700 public, private & charter schools
- 1,210,000 students - $114M funding from CDC

Maine: Statewide K12 pooling program launched

Mills Administration Advances New COVID-19 Testing Option for Maine Schools
April 27, 2021

Pooled testing program launches in May to help keep classrooms safe

AUGUSTA—Today, the Mills Administration announced that it will partner with Ginkgo Bioworks Inc. to offer a new COVID-19 testing option to Maine schools that allows them to easily test many students.

“...when you're working with a great vendor, they really take a lot of the burden, and make sure that schools have all the support they need, and all the resources they need.” - Sally Weiss, Maine DHHS
Concentric offers a FULLY INTEGRATED service to implement and operate a statewide program – going live within ~1-2 weeks

Component 1
Pooled (Cohort) Testing
Pooled testing is the foundation of Concentric’s program. This approach is designed to minimize the burden on school staff and allows 5-25 individuals to be tested as a group.

Component 2
Individual Diagnostics
We recommend that participating schools have a plan for individual diagnostic testing. Concentric can discuss options and provide rapid antigen and/or individual PCR tests.

Component 3
Staffing Support
Tier 1 - Schools use existing school resources
Tier 2 (optional) - Schools access local staffing support through the program according to their needs and at the option of the state.

Component 4
Program Admin and Reporting
End-to-end capabilities for reporting and administration. Support provided for management of CDC ELC requirements or other reporting requirements.

Deploying this protocol, New York State can offer optional testing to “every student, every week” either directly or through partnerships with local departments of health.
How does pooled testing look?

Component 1

Pooled Testing

Pooled testing is the foundation of Concentric’s program. This approach is designed to minimize the burden on school staff and allows 5-25 individuals to be tested as a group.
Individual testing is used in support of pooled testing, leveraging existing Antigen and PCR programs.

Individual PCR testing such as our saliva-based test or partnered with other local providers.

Rapid antigen testing such as the Abbott BinaxNOW test or other products.
Concentric provides end-to-end capabilities for reporting based on CDC ELC guidelines and other state reporting requirements.

State-level dashboard summarizing key metrics including:

- Number of tests run statewide by district
- Test positivity rate
- Turnaround time

Data to meet ELC required weekly reporting and federal and state DPH requirements.
Concentric partners with local providers for lab processing and support services

Local Partnerships

- Integrate local service providers to help operate the testing program and/or train supplementary staff
- Allow local processing of school lab samples providing quick turnaround times
- Increase community engagement and economic benefits from the program

Map: jfridman@ginkgobioworks.com • Created with Datawrapper
We Provide Support Materials for Schools
We Create Engaging Content for Students

Educational Comic Books!

Coloring sheets!
We Provide Information for Families

FOR PARENTS

Hello and welcome to your pooled testing program!

Our mission at Concentric by Gingko is to make testing accessible for every school in America. We use a method called pooling that dramatically lowers costs without sacrificing accuracy, making it possible to test every student, every week.

Why should we test for COVID-19 in schools? Why should my student participate in pooled testing?

You know the old saying: “knowledge is power.” Tools like pooled testing empower us to make great decisions. Without knowing the prevalence of COVID-19 in your school, it’s tough for school leaders to make informed decisions about safeguarding your school community, returning to school, or continuing in-person learning.

What is classroom pooling? How does it work?

Classroom pooling tests up to 25 people using one test. All students in a class, pool, or cohort swab their own noses using short nasal swabs, think cotton swabs. (We like to say, “if you can pick your nose, you can take this test!”) Then, everyone places their swabs in a single tube (that’s the pooling step). The samples in that tube are then run using one test. See it in action here.

How accurate is Concentric’s test?

Molecular tests like our pooled test are typically highly accurate at detecting the virus that causes COVID-19. We validated our pooled test by comparing its performance against an FDA-authorized “gold standard” PCR test. Our test correctly identified 96% of the positive tests detected by the PCR test and 100% of the negative tests (meaning that there were no false positives). The pooled results in our study matched the expected individual results 100% of the time.

Each of our lab partners has also validated their test by comparing performance to an FDA-authorized “gold standard” PCR test. Click here to read our validation reports for our lab at Gingko and all our partner labs across the country. Fair warning: It’s a bit detailed.

What happens if my child’s pool is positive?

While we understand a positive test result can cause concern, a positive result means the routine testing program is doing exactly what it was designed to do: monitoring pools of infections. This can help your school act to mitigate potential outbreaks. A positive pooled test result enables your school to take further steps to safeguard your student, you, and your community.

Your school has designed a policy to respond to a positive pool. Please reach out to your school directly about its specific guidelines and available resources.

Is my child’s privacy protected?

We take privacy concerns very seriously and will never use test results for any reason other than to help your school make decisions about safeguarding its community and continuing in-person learning.

We provide pooled test results directly to schools and minimize access to results to only people authorized by each school. Since our test is a public health tool designed for communities, we’re only interested in collecting or supplying data that will enable schools to formulate the best public health response to COVID-19.

We safeguard student’s privacy through several layers of protection. Please read our full blog post on this.

What if I have other questions?

For more information on Concentric by Gingko visit our website www.concentricbygingko.com where we have answers to many FAQs. Oh, check out our blog www.concentricbygingko.com/blog which we regularly update to answer questions in longer form.
# Example program startup timeline

<table>
<thead>
<tr>
<th>Week T-1</th>
<th>Week 0</th>
<th>Week 1</th>
<th>Week 2+</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Announce program and provide details to districts via memo</td>
<td>● Regular cadence with Concentric (as needed) for program status updates</td>
<td>● Press event at testing school</td>
<td>● Receive weekly program reports from Concentric</td>
</tr>
<tr>
<td>● Conduct webinar for schools to familiarize with the program</td>
<td>● Shipping test kits</td>
<td>● Ongoing program support including continued onboarding and program management</td>
<td></td>
</tr>
<tr>
<td>● Outreach to schools for training and onboarding</td>
<td>● Assist schools in collecting consents and driving participation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- First round of pooled testing beings
- First weekly program report for ELC requirements
For additional information please contact:

Matt Mcknight, Chief Commercial Officer: mmcknight@ginkgobioworks.com
Ben Rome, State K12 Testing Lead: brome@ginkgobioworks.com
Driving better outcomes, together
Our purpose is to **empower people to live longer, happier lives.** We are guided by science, empowered by technology, and passionate about caring for people.
**COVID-19 TEST OVERVIEW**

<table>
<thead>
<tr>
<th>IDENTIFY OR MANAGE:</th>
<th>SARS-CoV-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLLECTION METHOD:</td>
<td>Lower nasal swab</td>
</tr>
<tr>
<td>ONLINE RESULTS:</td>
<td>1-3 days</td>
</tr>
<tr>
<td>WHAT DOES IT TEST FOR?</td>
<td>RT-PCR/TMA lab analysis</td>
</tr>
<tr>
<td>SHELF LIFE:</td>
<td>3-6 months</td>
</tr>
</tbody>
</table>
## COVID-19 TESTING COMPARISON

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PCR TESTS</th>
<th>RAPID ANTIGEN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Molecular tests can diagnose the virus even with a small amount of viral particles.</td>
<td>Antigen tests (or rapid test) are more likely to miss the infection or provide a false negative result.</td>
</tr>
<tr>
<td><strong>COLLECTION METHOD</strong></td>
<td>Lower nasal swab</td>
<td>Lower nasal swab or throat</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME</strong></td>
<td>24 – 48 hours</td>
<td>15 – 30 minutes</td>
</tr>
<tr>
<td><strong>ACCURACY</strong></td>
<td>Highly accurate</td>
<td>1 in 5 patients can receive a false negative¹</td>
</tr>
<tr>
<td><strong>SENSITIVITY</strong></td>
<td>99.7%</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>SPECIFICITY</strong></td>
<td>99.7%</td>
<td>High</td>
</tr>
</tbody>
</table>

¹ https://www.cdc.gov/mmwr/volumes/69/wr/mm695152a3.htm
FDA ranked LetsGetChecked as the most analytically sensitive at-home COVID test on the market.

LetsGetChecked’s at-home COVID test is the only end-to-end testing service on the market.

FDA accessed all elements of the delivery model.

Developed and launched the only end-to-end COVID testing platform in 8 weeks.

Since launch LetsGetChecked has performed over 1M at-home COVID tests.

NEW STRATEGIES

POOLING
Cost savings

SEQUENCING
Spread Impact

SURVEILLANCE
Other testing avenues

VACCINES
New methods
POOLING: BY THE NUMBERS

10-1 max. ratio

CA lab pooled

$ cost-saving

24 hr. results
At-home test EUA approved for minors ages 2+

Secure activation and results delivery

Child activation
Please enter your child’s name below.

 ENTER NEW CHILD

Child First Name
John

Child Surname

Continue
Innovative Coronavirus Testing Strategy to Create a Safer Learning Environment

50,000+ at-home tests
98.8% of tests returned negative
14 hr. average turn around time