

SHIELD T3 Executive Committee Meeting Public Session

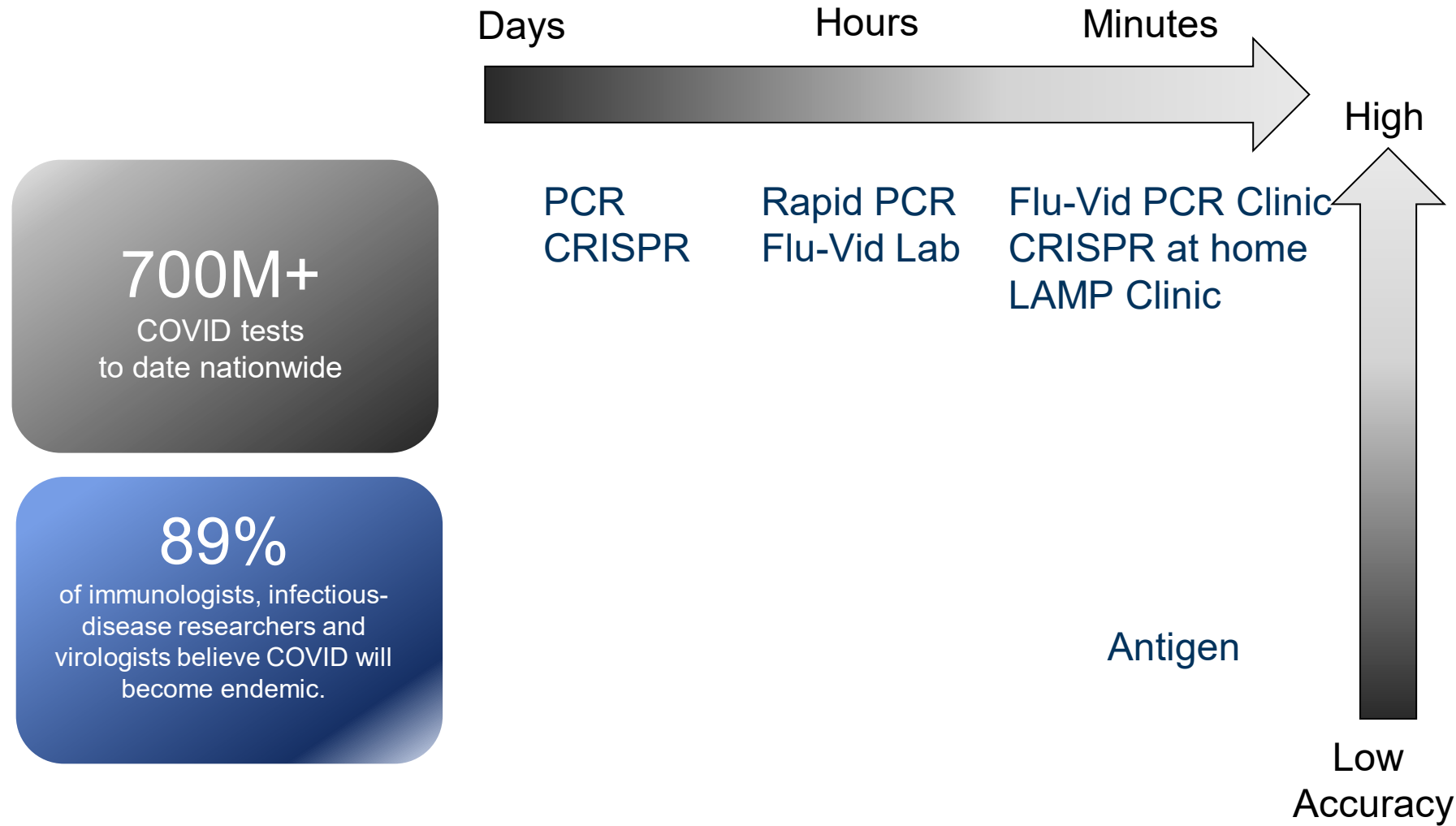
February 11, 2022



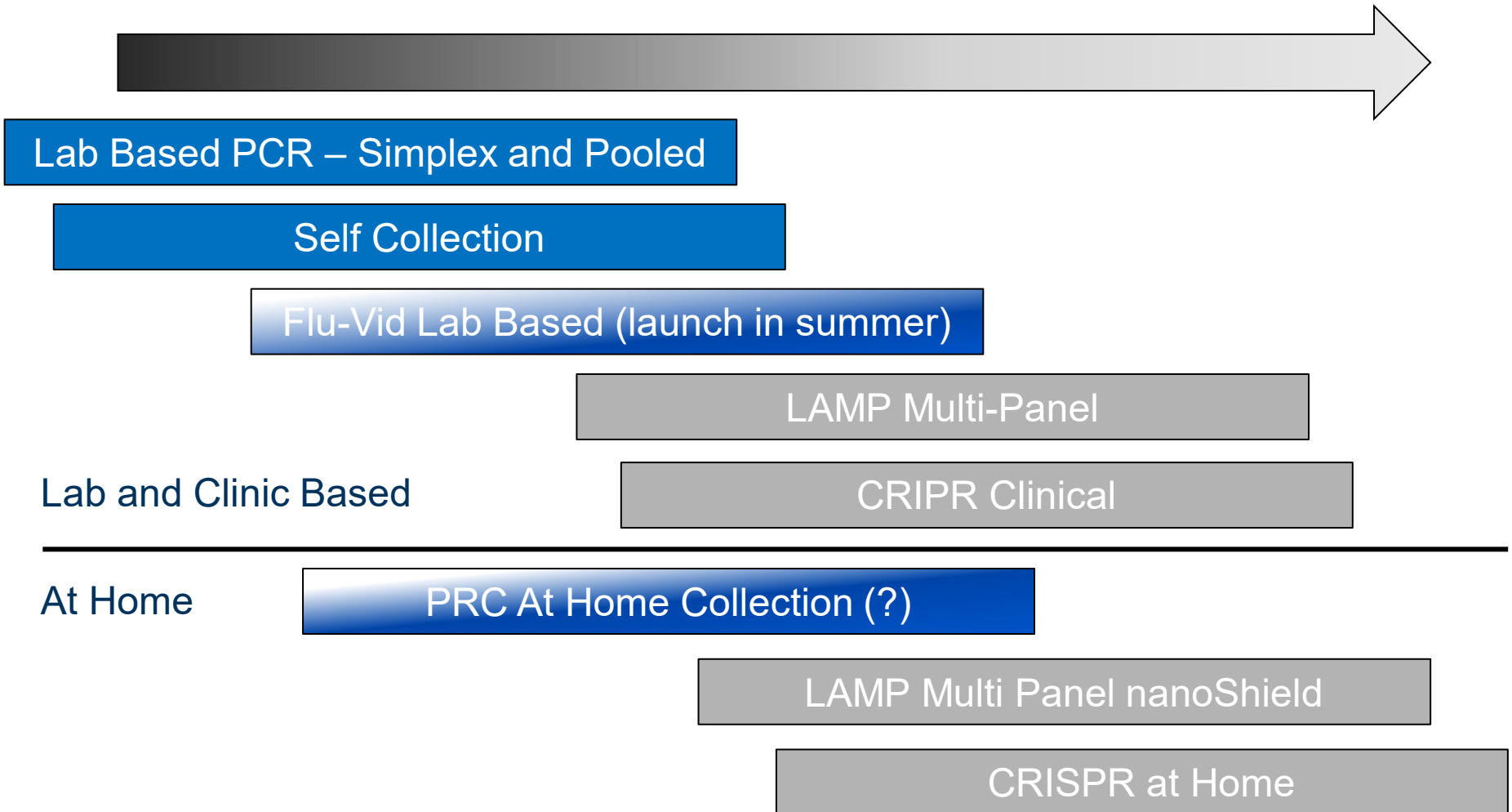
UNIVERSITY
OF ILLINOIS
SYSTEM



As COVID-19 transitions to an endemic, testing is not going away but it will dramatically transition



We are working on offering roadmap

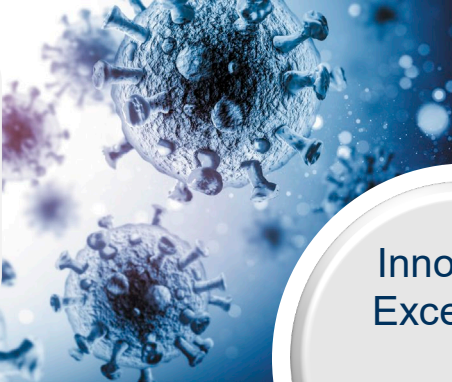


Shield T3 is continuing to pursue opportunities to build a business for the long-term



COVID & Respiratory Illness

Rapidly scale to dominate the COVID endemic testing market and become a "one stop shop" for diagnosing airborne illnesses (e.g., flu, RSV).



Wastewater Epidemiology

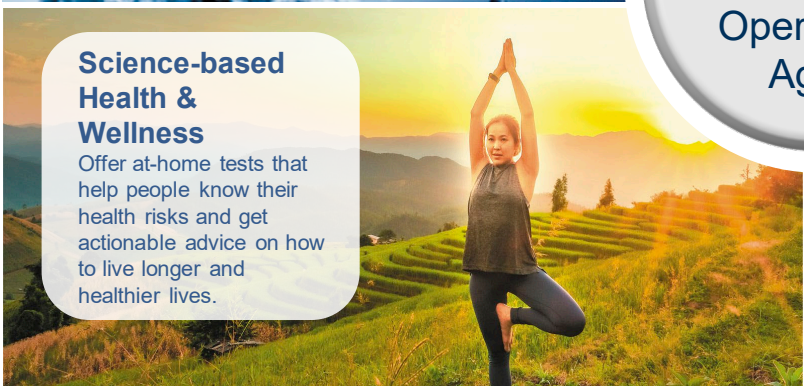
Test wastewater to monitor COVID-19, future pandemics and other diseases for governments, large residences, workplaces, and individuals.



Innovation Excellence & Operational Agility

Science-based Health & Wellness

Offer at-home tests that help people know their health risks and get actionable advice on how to live longer and healthier lives.



Novel Diagnostics

Targeting conditions where new technology offers the promise of better diagnostics for currently hard to diagnose diseases



PROPRIETARY & CONFIDENTIAL



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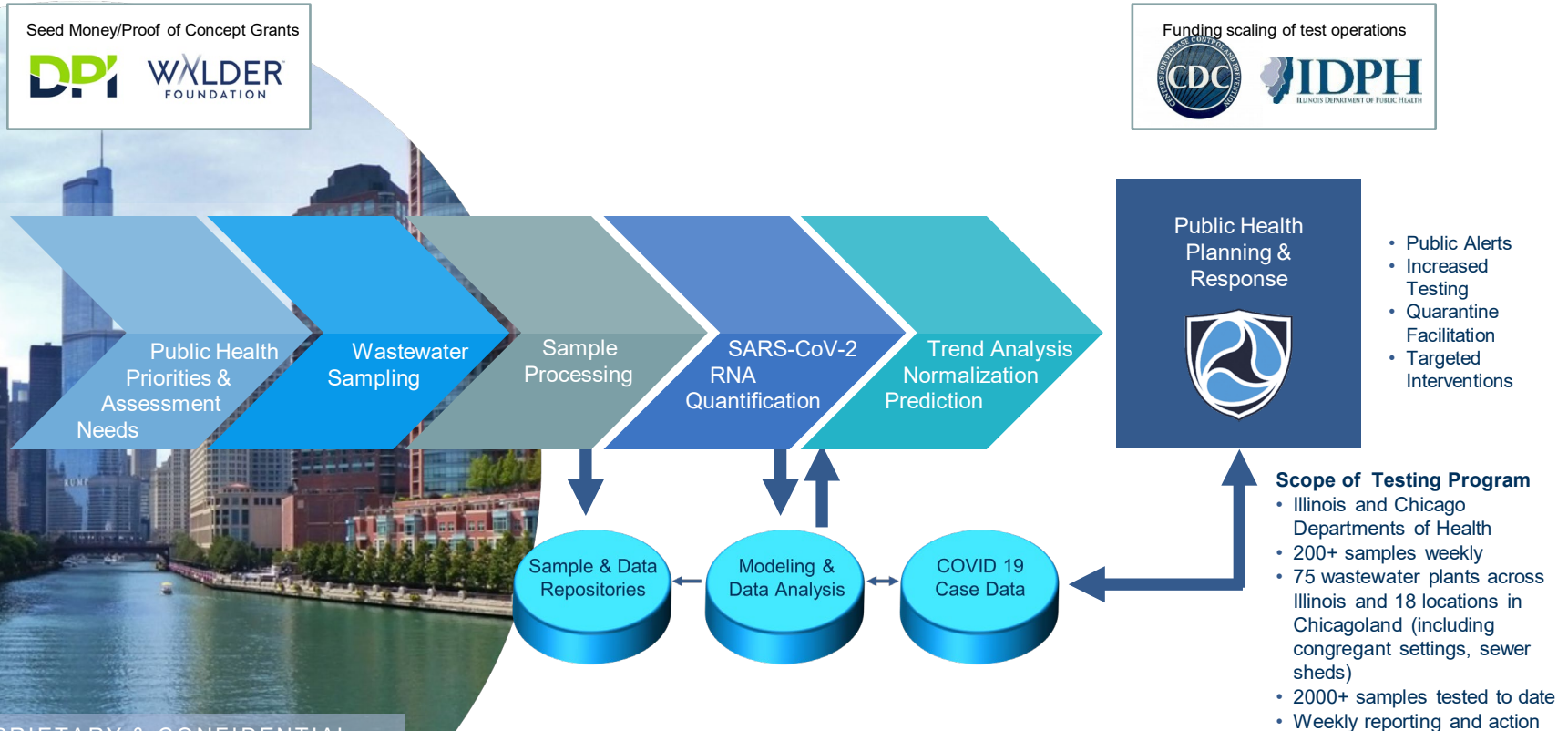


Shield T3 is leveraging Wastewater work efforts of DPI/U of I

Case study – differentiated approach in Chicago and across Illinois.



Illinois & Chicago Wastewater-Based Epidemiology Testing Program



Shield T3 Proposed Future Board Meeting Schedule

- Full Board Meetings
 - January
 - April
 - July
 - October

A laboratory setting with a grid of microcentrifuge tubes. A pipette is dispensing liquid into one of the tubes in the foreground. The background is blurred, showing more tubes and laboratory equipment.

Shield Programs

Shield Campus
Shield ILLINOIS
Shield T3

COVID closed the world. We're re-opening it.



COVID SHIELD ACCOMPLISHMENTS:

7+ M
Tests for
Shield
programs
overall

Non-Invasive
&
Easy
Collection

99.8%
Accurate

Results
2-3
Days Faster
Than Average

50-75%
Lower Cost
Than Average

98.5%
Lower
Infection Rate

We have 500
thousand tests
per week of
unused
capacity

SHIELD ILLINOIS

SHIELD Illinois is the University of Illinois System's initiative to make our innovative covidSHIELD saliva-based COVID-19 test available to K-12 schools, colleges and universities, companies and the public across the state of Illinois.

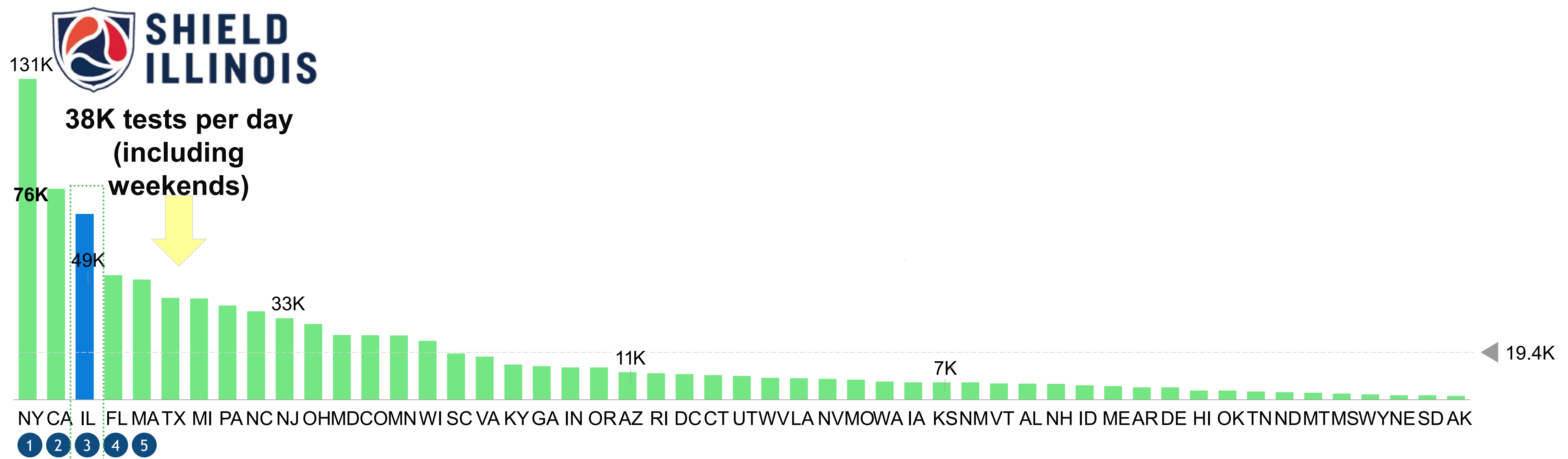
- 1,727 K-12 Schools in Illinois (995,907 K-12 Students/Staff)
- 57 Universities and Community Colleges
- 453 Total Contracts (School Districts, Companies, Universities...)
- 30 community based sites & 10 Corporate/Government entities to include the US Federal Courts
- Avg 175 - 225K tests per week (Over 3.5M total tests ran over the last 8 months)
- From Carbondale to Rockford to Chicago, average statewide results in under 13hrs (94% under 18 hrs from administration)
- Per IDPH, the only testing partner without a material failure or fault



<https://shieldillinois.com/>

SHIELD would be the 6th most active testing state in the United State by itself

7-day¹ rolling daily average of tests completed

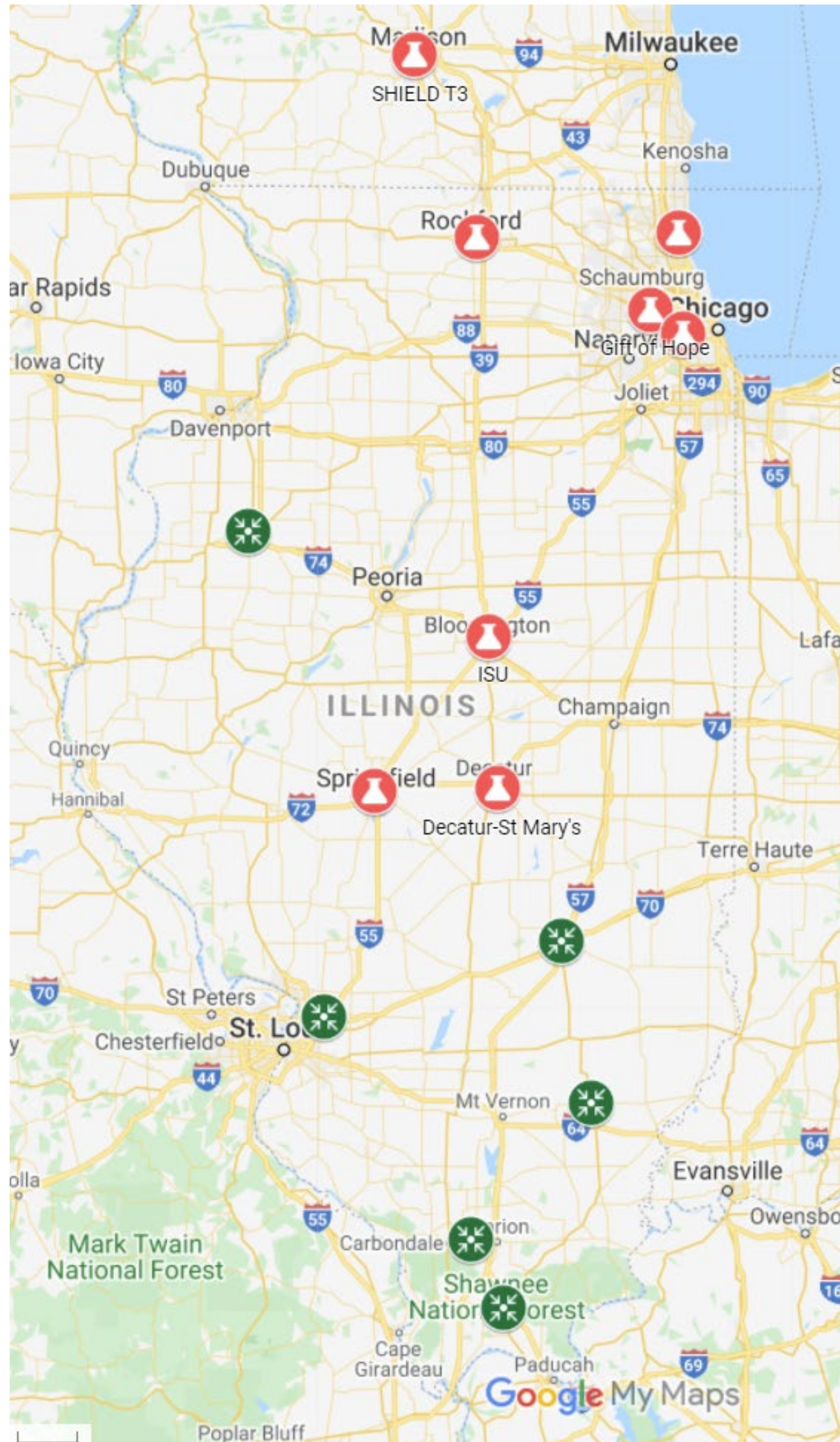


1. Week of 11/01 to 11/08

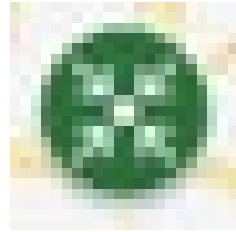
Note: Rankings are based on PCR Tests only

Source: CDC COVID Data Tracker as of 11/08/2021

This is enabled by a robust network of labs and pickup sites throughout Illinois

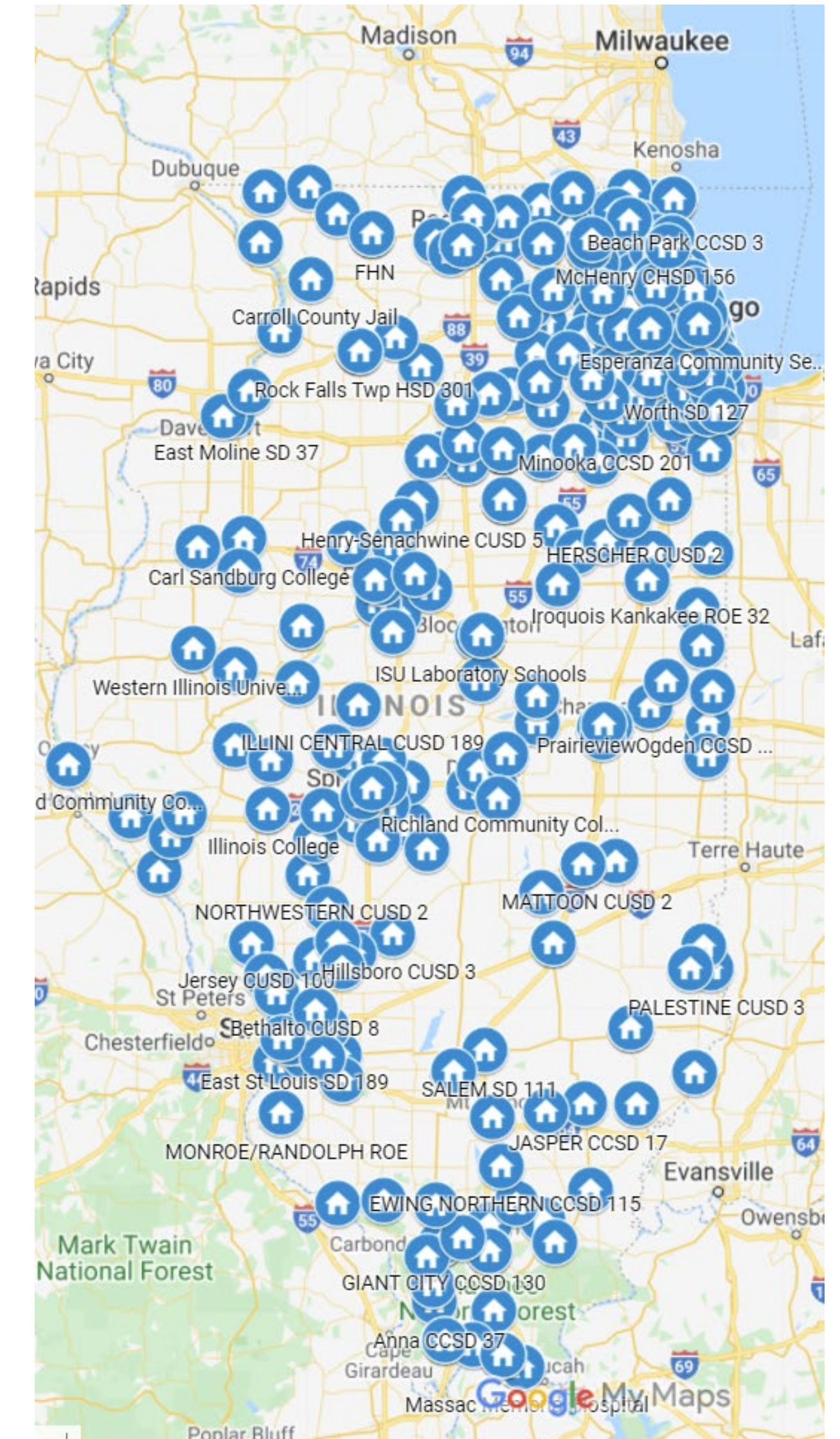


The key has been a robust network of:

- SHIELD labs 
- Funnel transportation sites 

That allow testing coverage and sample transportation across the State of Illinois

- Testing Partners 



In less than 6 months:

- On site collection teams
- Mobile collection team for outbreaks
- Supply chain secured
- Statewide transportation network
- Hipaa compliant technology system
- 24/7 Customer hotline



Collections



Support



Logistics



Supply Chain



Labs



Technology



External Relations



CLIA/
Compliance



Leadership & Administration

- 11 CLIA labs networked together and connected to 1800+ sites across the state

- Extended allocated State of Illinois Federal CARES Act funding by 2-3x
- Low Cost. Avg cost of collections to testing \$75-\$100 per test. Shield Illinois Total Cost \$30 (down from \$35)
- Helped Select Companies Stay Open. Kept production lines moving by protecting shifts and reducing internal positivity rates to less than 1%
- Job Creation. 100% Illinois - 300 FTEs and 800 contractors



Thank You



The background of the slide is a blurred photograph of a laboratory setting. It features several clear plastic microcentrifuge tubes with white caps, arranged in rows. A clear plastic pipette is positioned vertically, with its tip inside one of the tubes. The overall color palette is cool, with blues and greys, and a soft, out-of-focus light source in the upper left corner.

Shield Programs

Shield Campus
Shield ILLINOIS
Shield T3

Shield T3 brought testing to the demand... with fast, accurate, best cost testing



Seven CLIA-certified labs across the U.S. allow rapid results...We will be expanding with two new labs in the couple months

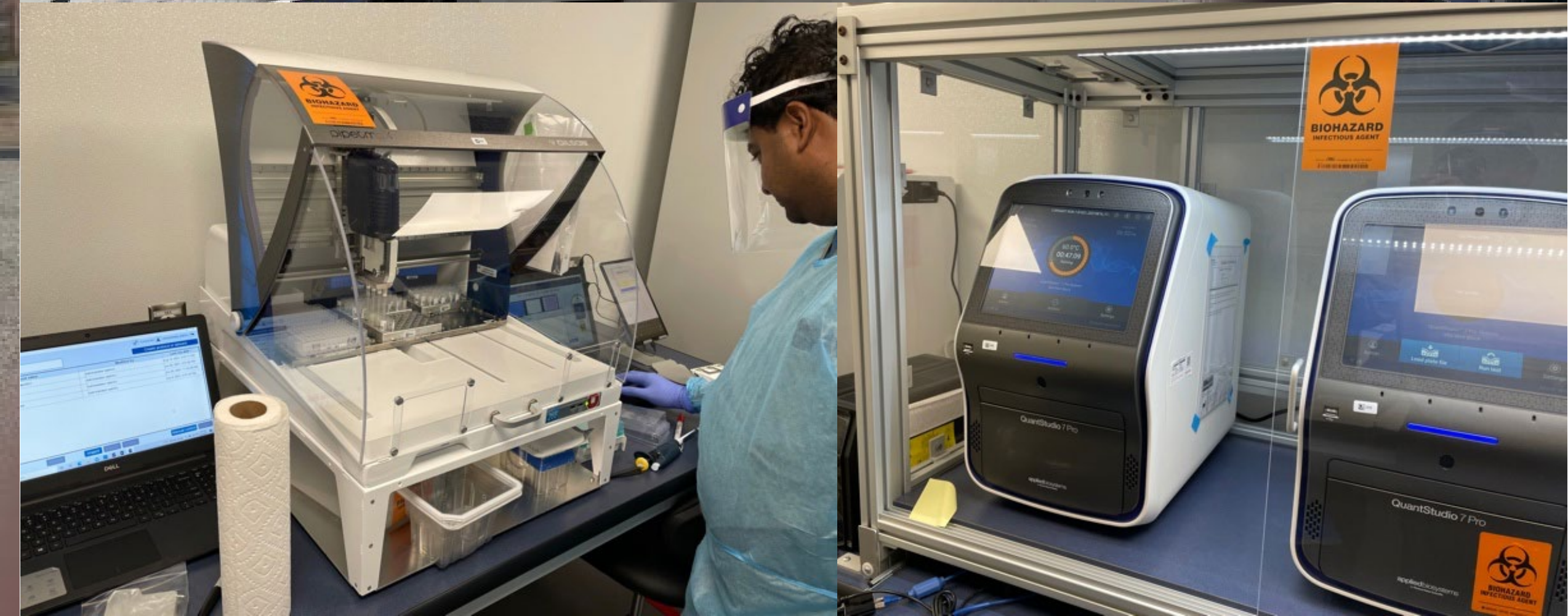
Mobile labs and end-to-end testing ecosystem make it easily scalable.

Ideal for schools, universities, and workplaces that need ongoing testing programs.

Outstanding client list + licensing internationally



We have a unique lab setup
- a lab in trailer that can do
10,000 tests per day



We help 100s of clients across 1000s locations - daily



K-12

Currently testing thousands of students in some of the country's largest public school districts



Universities

We conduct weekly tests on thousands of students and staff members



Business/Corporate

We work with businesses to set up testing programs that keep people working



Our results and innovation put us at the forefront

“New coronavirus testing lab (SHIELD) will produce faster, cheaper results for D.C.-area universities”

The Washington Post

“We need speed, ease and a large number of tests. Because SHIELD can set up the mobile lab, it contributes to the scalability. And it can be copied and replicated across the country.”

-Sylvia Burwell, President, American University



“Lessons that the University of Illinois learned have also served as a model for other institutions and communities.”

The New York Times

“The Baltimore City’s school system (SHIELD) is now one of the city’s largest COVID testing sources and has become a model for districts around the country.”





Shield T3 has risen to the COVID challenge and now we're extending our impact.

COVID & Respiratory Illness

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Innovation Excellence & Operational Agility

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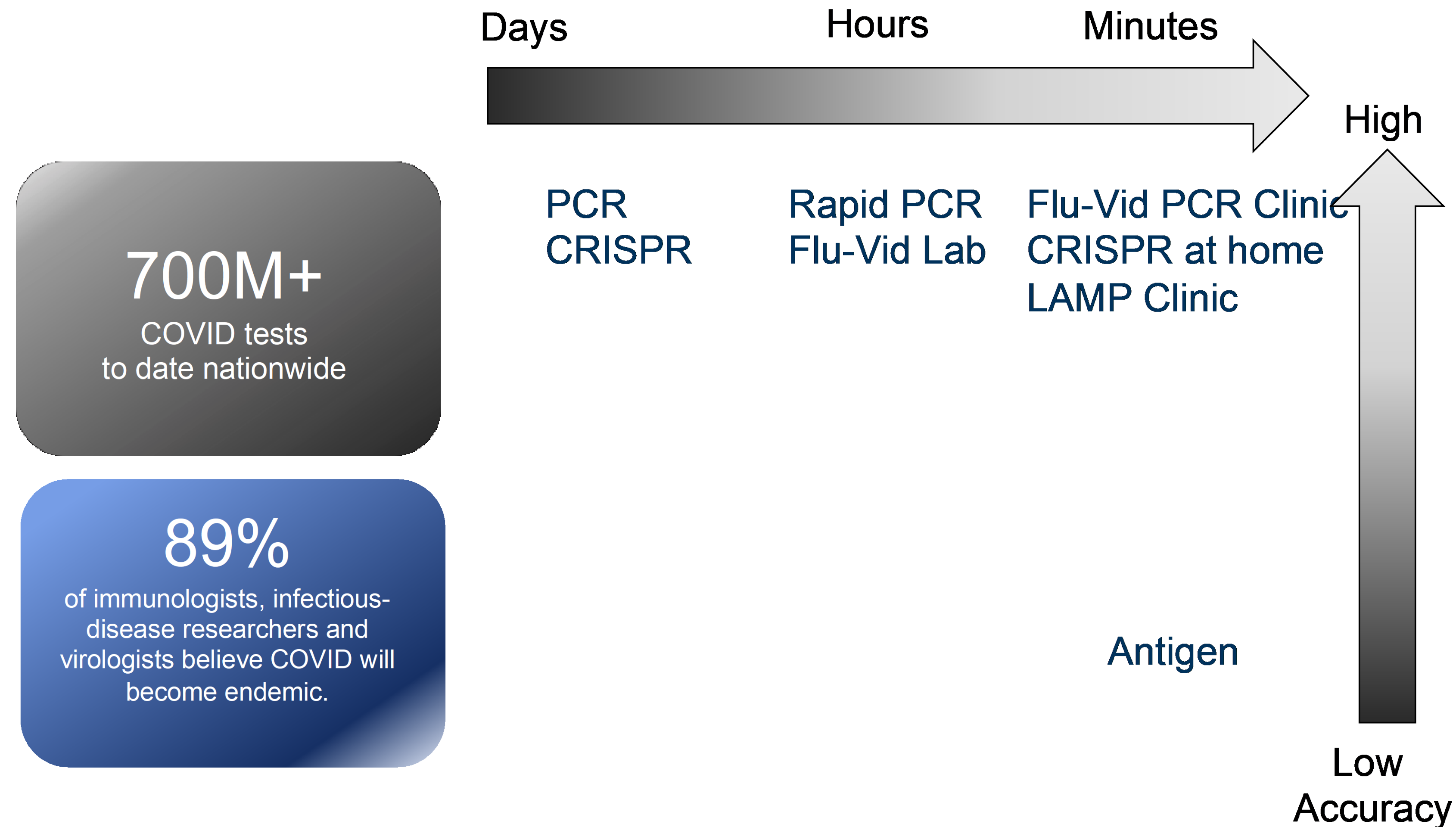
Novel Diagnostics

Target conditions where new technology offers the promise of better testing for currently hard to diagnose diseases.





As COVID-19 transitions to an endemic, testing is not going away but it will dramatically change



Wastewater-based testing provides tremendous public health benefits and a growth opportunity.

What is it?

Wastewater Testing Detects:

- Infectious diseases
- Environmental risk factors
- Chronic diseases (e.g., diabetes)
- Drug and substance abuse

Who will we serve?

Massive Market:

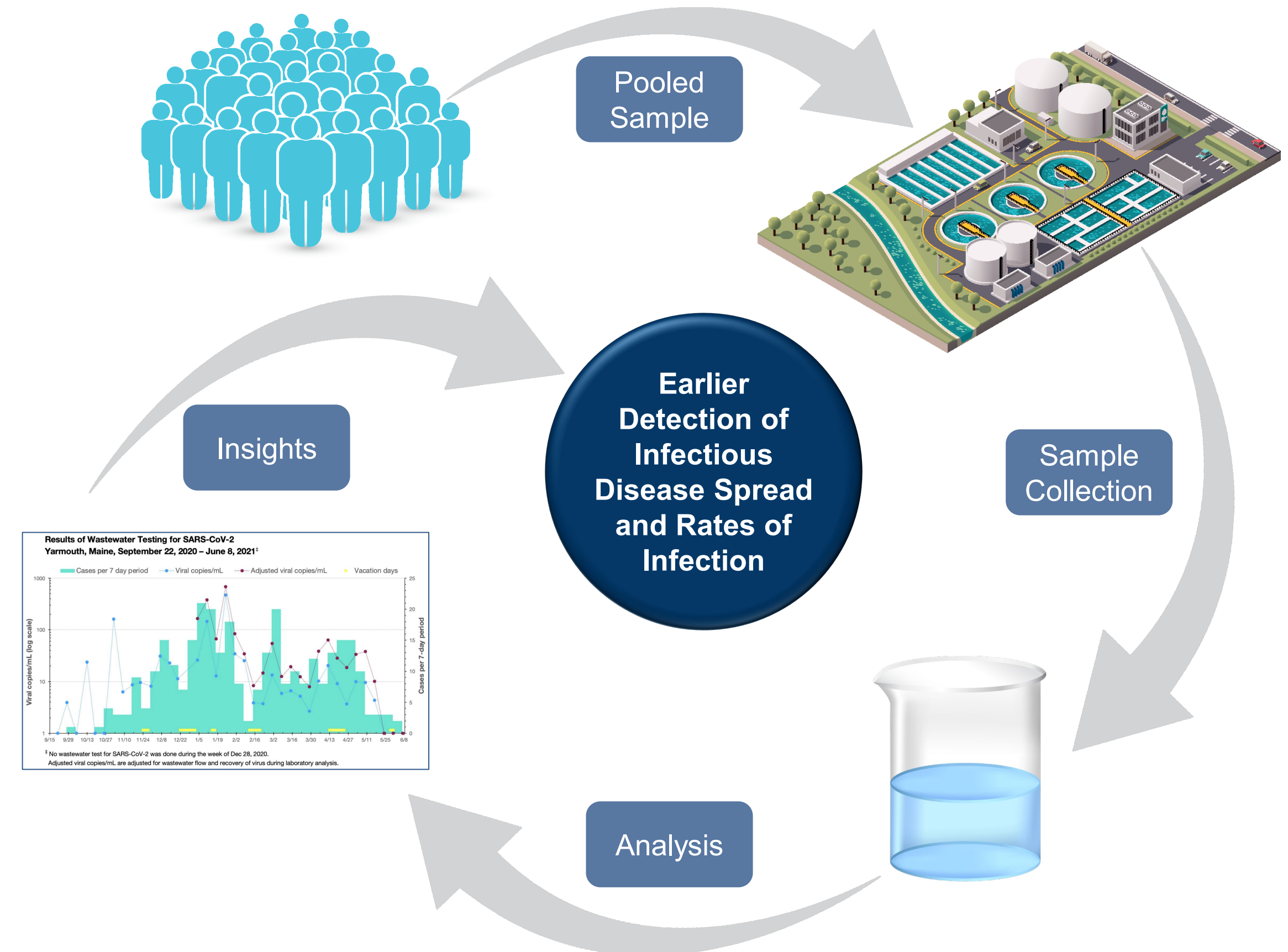
- State, municipal, and local governments
- Communal living – universities, assisted-living, hospitals, correctional facilities, large residential complexes
- Large workplaces
- Leisure and travel providers/hubs

What will we sell?

Differentiated Offering:

- **Core Testing Services:** sample collection, testing protocol definitions, and testing services, specifically allowing for targeted interventions.
- **Value Added Services:** sample/testing design and strategy, data aggregation, advanced analytics, predictive models, insights/action planning, and facility certification (WELL Certification, FITWEL Standard).

How Does it Work?





Wastewater epidemiology offers a complementary to COVID testing.

- Wastewater testing and monitoring to detect COVID-19, future pandemics, and other diseases for governments, large congregant living, and essential workplaces.
- Public health benefits strongly aligned to Shield T3's mission-driven priorities.
- Valuable opportunity to extend this new product/service to existing institutional customers.



Thank You

We have been successful scaling for five main reasons where other initiatives have not

Collections – Ease of collection and sufficient collection capabilities locally are just as essential as testing capacity. The collection process must be ease, repeatable, robust, and simple and easy to train on. Saliva is advantaged for ease of collection.

Logistics – When collecting from tens of thousands of samples per day from hundreds of test sites, a well refined logistic, SO&P processes and capacity management processes are critical. We have set up two different models at Shield that work – a hub model for extremely large volumes and local lab model.

Integrated System – It must be easy and fast to add customers to the system. It is important to have an integrated platform for health security and can fill an important data void that the US is currently suffering from (compared to other countries with active surveillance programs such as UK, Israel, and Denmark). Its wide deployment will enable data driven and science-based decision making nationwide.

Saliva test – The saliva test is easier to administer than nasal or antigen, critical to collections. Furthermore, our research supports that saliva is more accurate – higher sensitivity and specificity. Nasal swab is difficult and can produce false negatives due to collection. Saliva does not face these issues. Saliva allows anyone to administer the test decreasing costs and allows available people who can work collections. This is a major benefit of covidSHIELD.

State based – It is important to work through the state and city departments of health. The partnerships with IDPH, IDPH and main elected officials has been so important



Test to Stay works for K-12 students

- 98.5% of the students through would have been quarantined were able to stay in school
- Use of both covidSHIELD PCR test and antigen tests with the same reporting system and tracking system
- Shield Illinois helps the schools get the necessary CLIA waiver and Dr order to perform the tests
- Online training modules for staff to collect the tests; saliva is a very easy medium to collect
- Field collection teams mobilize to outbreak to collection tests during outbreaks
- Requires the school or entity to be pre-registered and parental consent in the reporting system

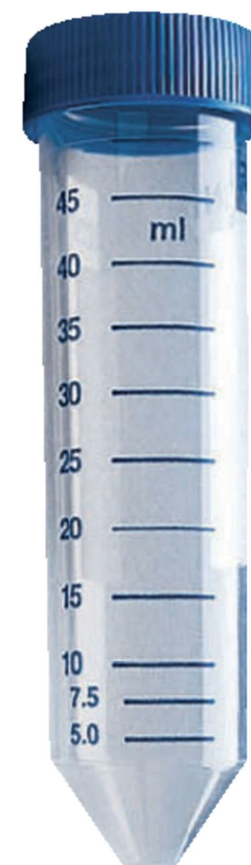


CDC Endorses Test to Stay

<https://news.uillinois.edu/view/7815/300378312>

Champaign-Urbana Project: May 3 - June 18 2020

saliva



1. Heat at 95 C for 30 min



2. Add TBE/Tween buffer

Paul Hergenrother

PCR



Results in hours

		Saliva (no heating step) with RNA extraction	
		Positive	Negative
Saliva with heating but no RNA extraction	Positive	21	0
	Negative	0	4
	Total	21	4
Positive Percent Agreement = 21/21 = 100%			
Negative Percent Agreement = 4/4 = 100%			

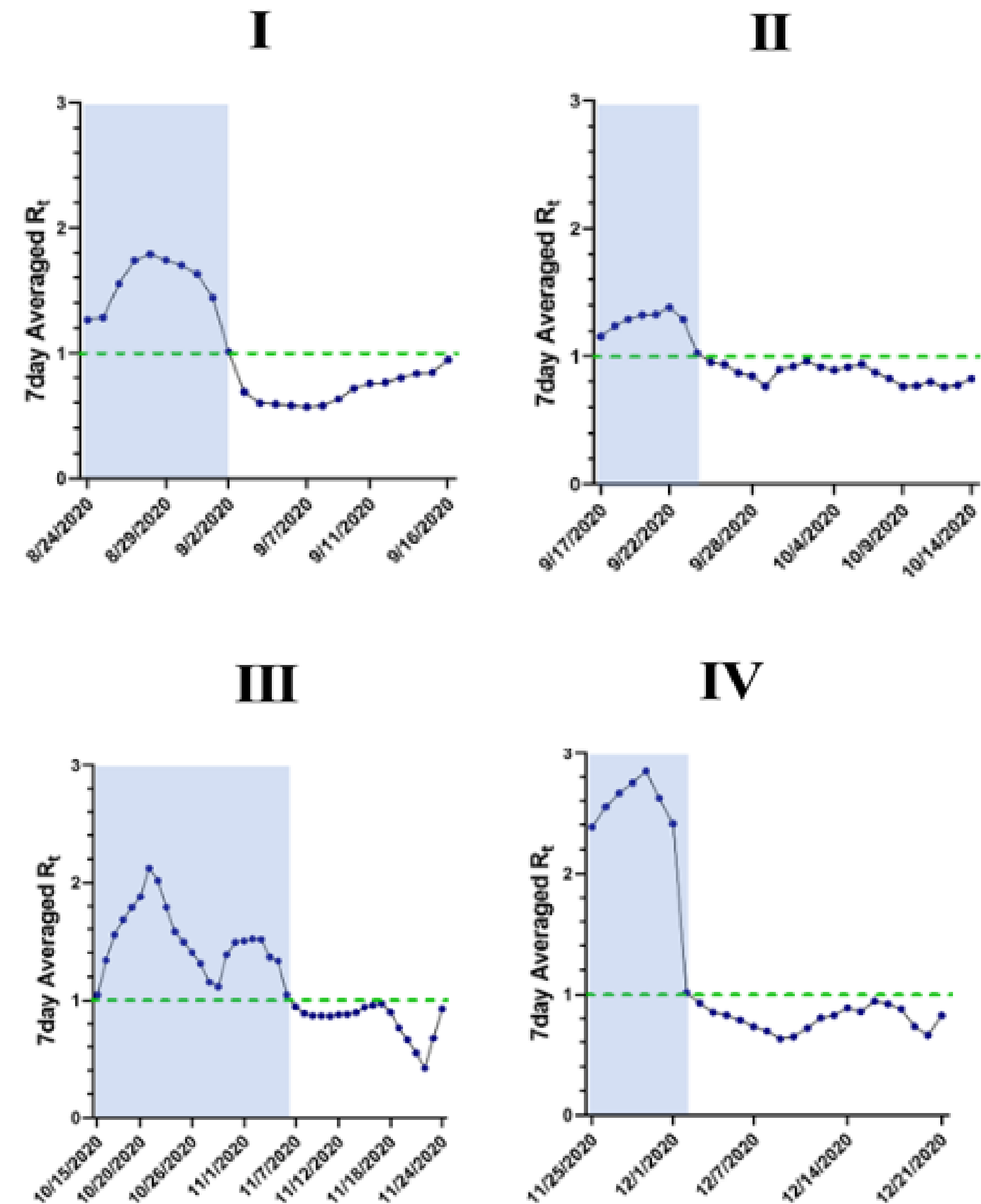
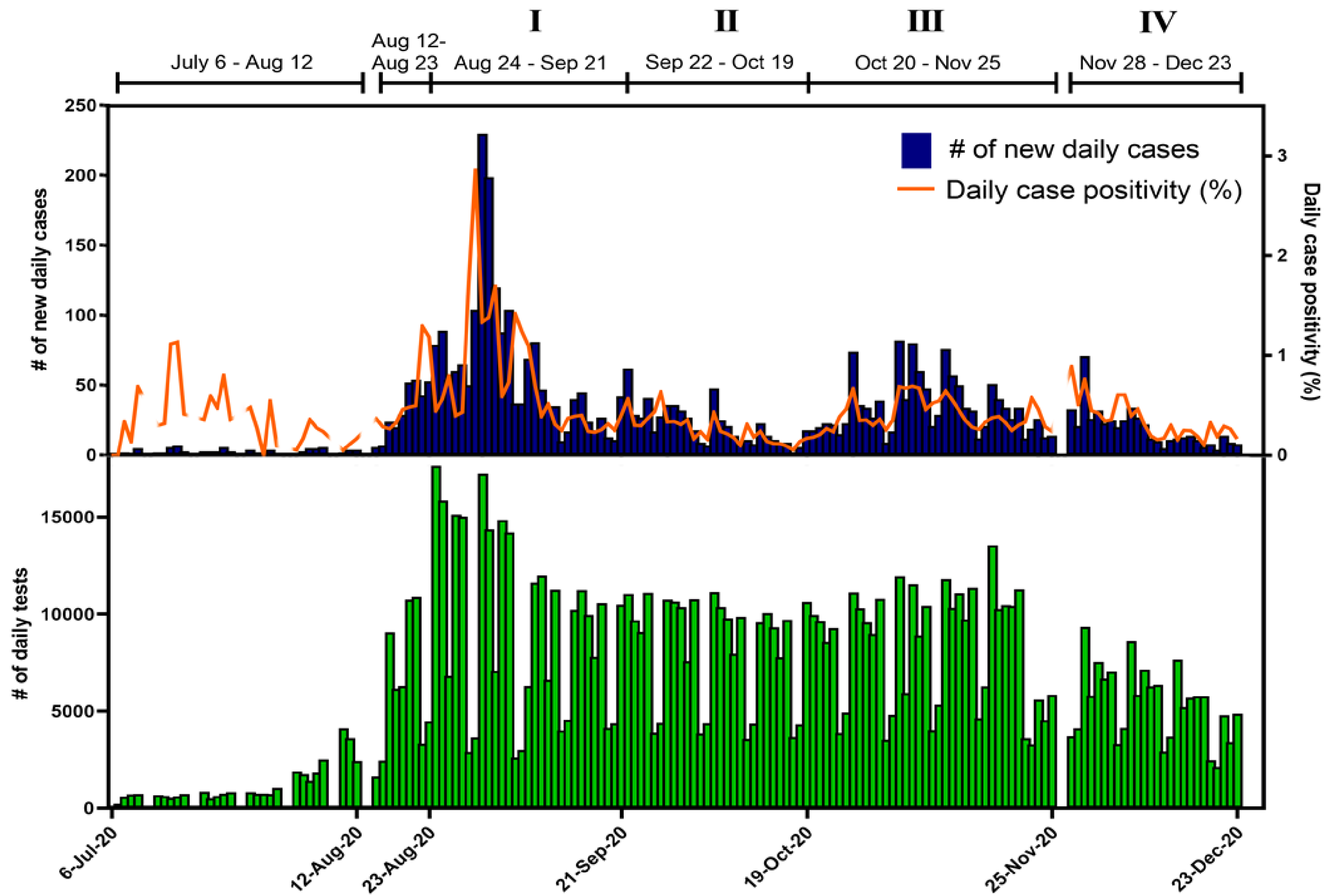
Saliva-Based Molecular Testing for SARS-CoV-2 that Bypasses RNA Extraction

Diana Ranoa, Robin Holland, Fadi G Alnaji, Kelsie Green, Leyi Wang, Christopher Brooke, Martin Burke, Tim Fan, Paul J Hergenrother
doi: <https://doi.org/10.1101/2020.06.18.159434>

FDA EUA202555
covidSHIELD Assay
Jay Walsh

		Mid-Turbinate/NP Swab Abbott RealTime SARS-CoV-2 Assay	
		Positive	Negative
Saliva covidSHIELD	Positive	30	1
	Negative	1	88
	Total	31	89
Positive Percent Agreement = 30/31 = 96.8%			
Negative Percent Agreement = 88/89 = 98.9%			

Deployment: July 6-December 23, 2020



COVID-19

Outcomes: July 6-December 23, 2020

- >1 million tests; on many days ~2% of all the tests in the U.S. were performed at UIUC; results in hours.
- Case positivity rate generally remained <0.5%
- Most initial positive tests in people that were asymptomatic or minimally-symptomatic
- No hospitalizations or deaths amongst UIUC community
- No evidence of transmission in classrooms or laboratories; attending class was protective
- No evidence of transmission from students to faculty/staff
- Mitigation of transmission from UIUC community to surrounding Champaign County community (14.6% reduction in Covid-19-related death relative to predicted)

Counties Surrounding Big Ten Universities in the U.S.

