

SHIELD U.S.

A COVID-19 testing system to get the U.S. back up and running more safely as we bridge to widespread vaccination

EVEN WITH THE IMMINENT DISTRIBUTION OF VACCINES WE WILL NEED EXTENSIVE TESTING TO CONTROL TRANSMISSION OF SARS-COV-2 THROUGHOUT 2021

- **Deploying the vaccines will take time**
- **Many people do not want to be vaccinated**
- **While the vaccines appear highly effective, there is still risk**
- **New strains of the virus are emerging**
- **Superspreader events can still cause hotspots**

SHIELD PROGRAMS



We **test** more rapidly, frequently, broadly, and accurately.

We **tell** – giving individuals and organizations the ability to react quickly.

We **target** – providing the intelligence needed to be proactive.

SHIELD WORKS — WE HAVE >1,000,000 TESTS TO PROVE IT

The SHIELD system at University of Illinois Urbana-Champaign (UIUC) has demonstrated that it can:

- Control an epidemic
- Support in-person university classes and get students back to school

All with zero:

- Hospitalizations or deaths
- Transmission to the local community
- Transmission within classrooms

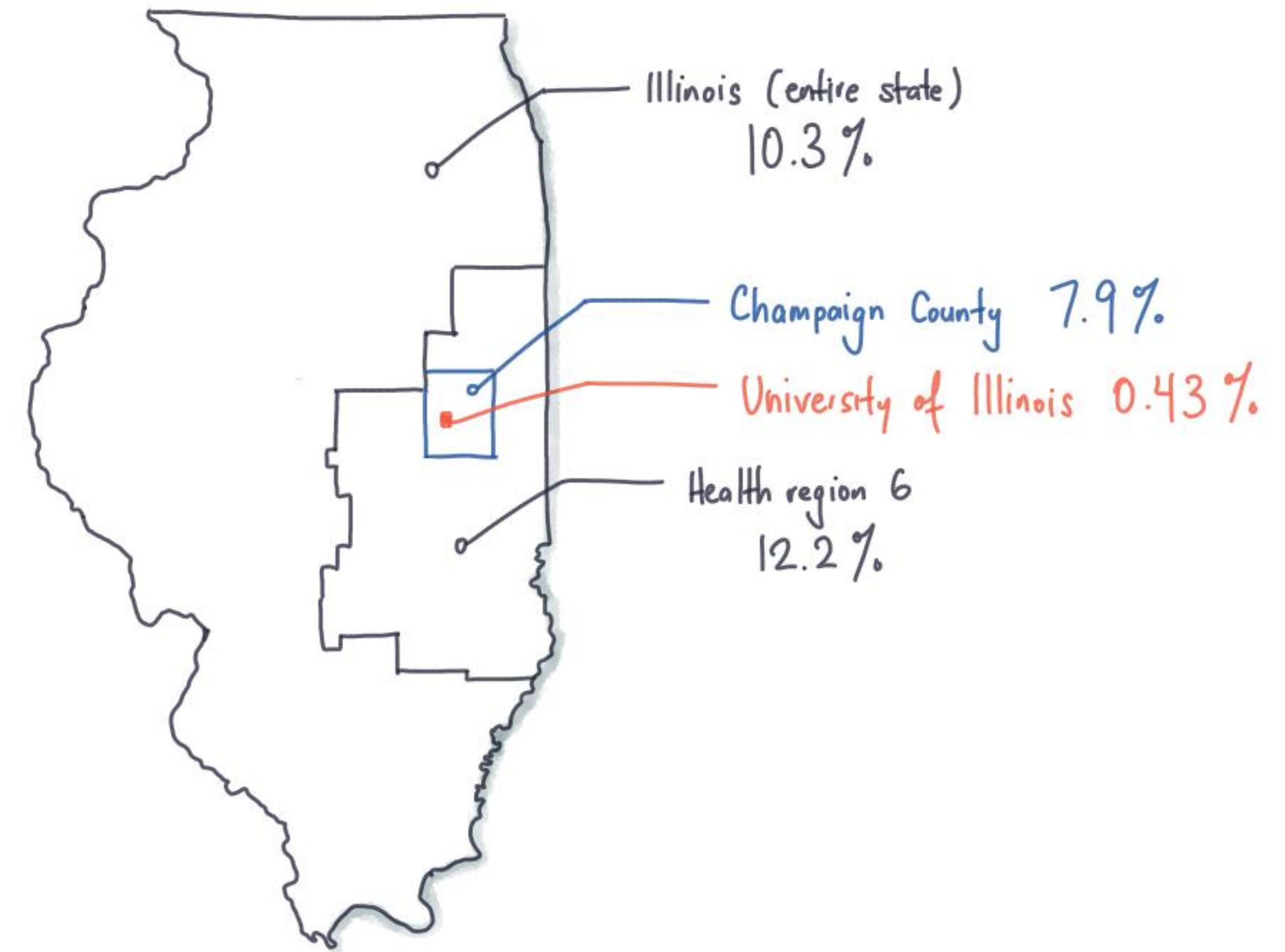


THE UIUC PROGRAM SHIELD UNIVERSITY

WITH SHIELD IN PLACE, UIUC IS THE SAFEST PLACE IN THE STATE AND PROBABLY IN THE COUNTRY

Repeated testing of population reduces transmission

- Modeling & our experience shows that frequent screening every 2-3 days of entire population will control outbreaks
- Success relies on commitment to frequent screening, and multi-layered behavioral interventions such as universal masking
- Region 6 positivity much higher than our surrounding county
- Declining positivity rates in state still 25 times greater than at UIUC



THE MOST EFFECTIVE MITIGATION STRATEGIES INCLUDE LARGE SCALE TESTING AND MORE

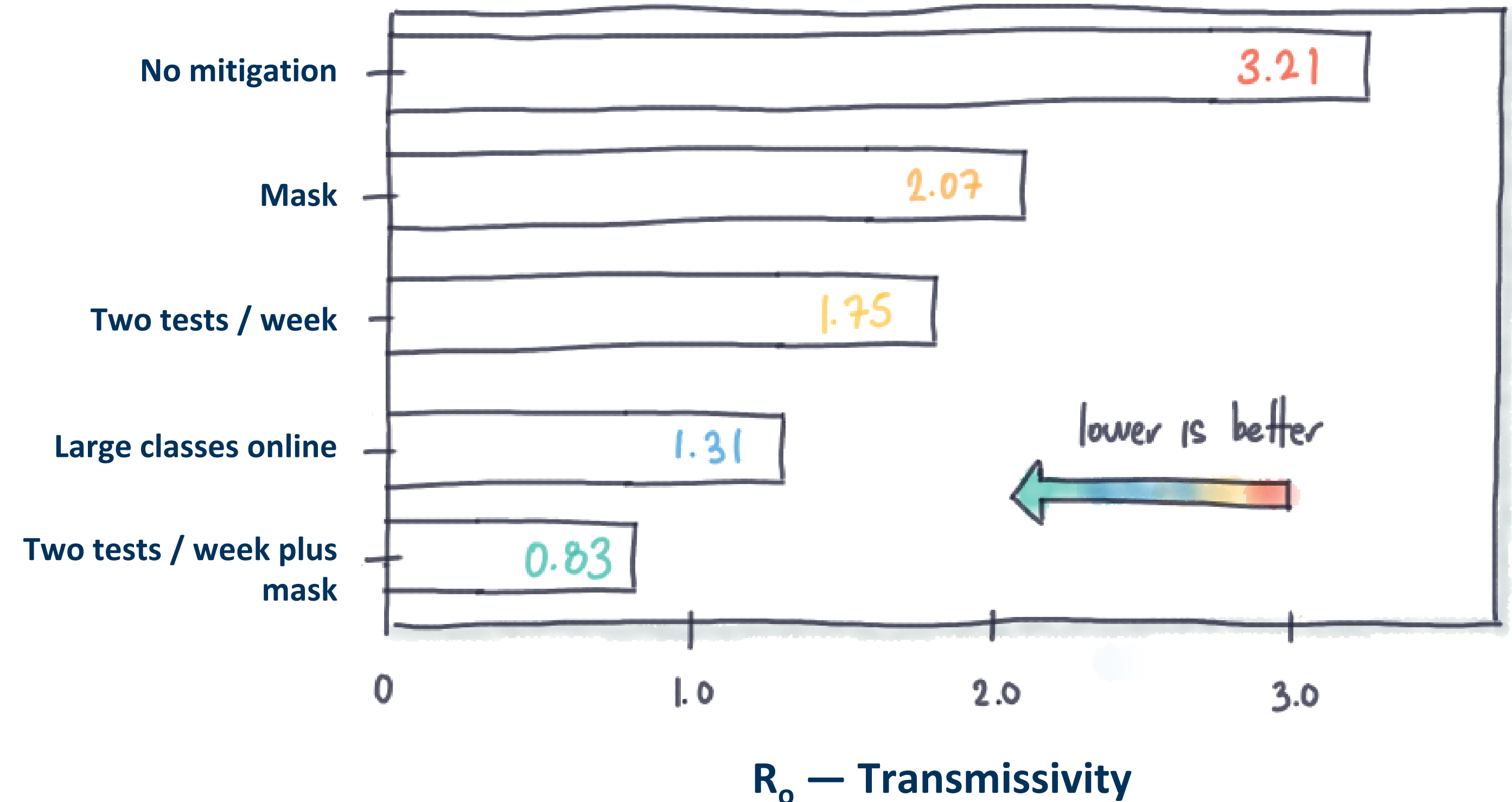
Evidence has shown that a multitude of strategies can work to control outbreaks

Testing everyone twice a week is one of the most effective strategies

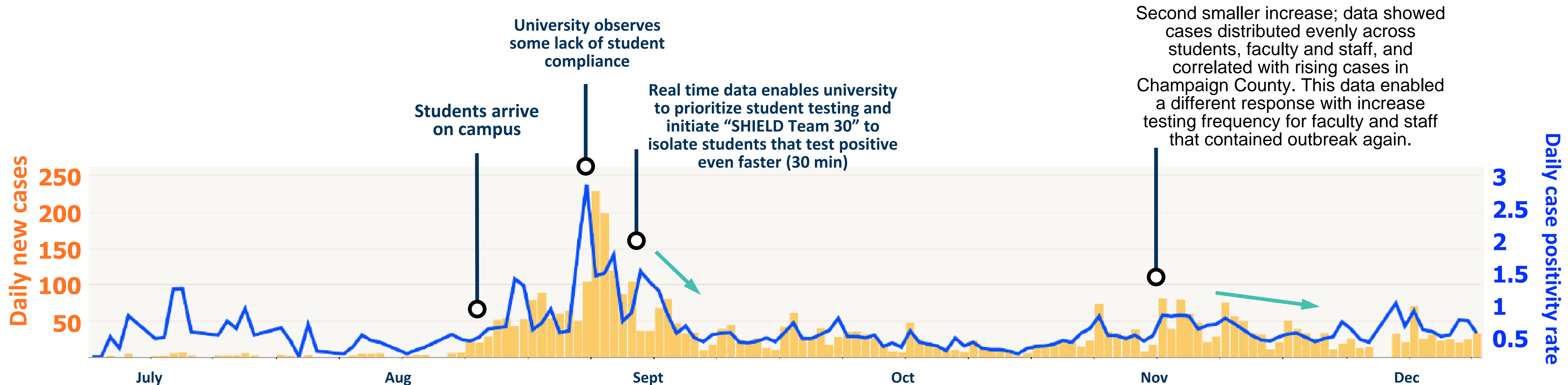
Testing alone is not enough

It takes a multi-faceted approach

Transmissivity of Covid-19 as a Function of Different Mitigation Strategies



WHEN WE DEPLOYED SHIELD, IT PROVED TO BE EFFECTIVE AT CONTAINING OUTBREAKS – PLAYING OFFENSE INSTEAD OF DEFENSE



We run over 10,000 tests per day on campus
We test at scale – every undergraduate student twice a week
We turn around tests in under 12 hours
We contact trace rapidly – isolate in under 3 hours

SHIELD DELIVERS ON SIX KEY ASPECTS NEEDED FOR A SUCCESSFUL ECOSYSTEM

Speed

Less than 12 hours from sample collection to results
Rapid contact tracing

Accuracy

A PCR test that is 99.8% accurate & very few false positives

Scale

Every UIUC student is tested 2x a week
Up to 17,000 tests a day

Collection

Saliva based, far more comfortable so you can do more frequent testing

Cost

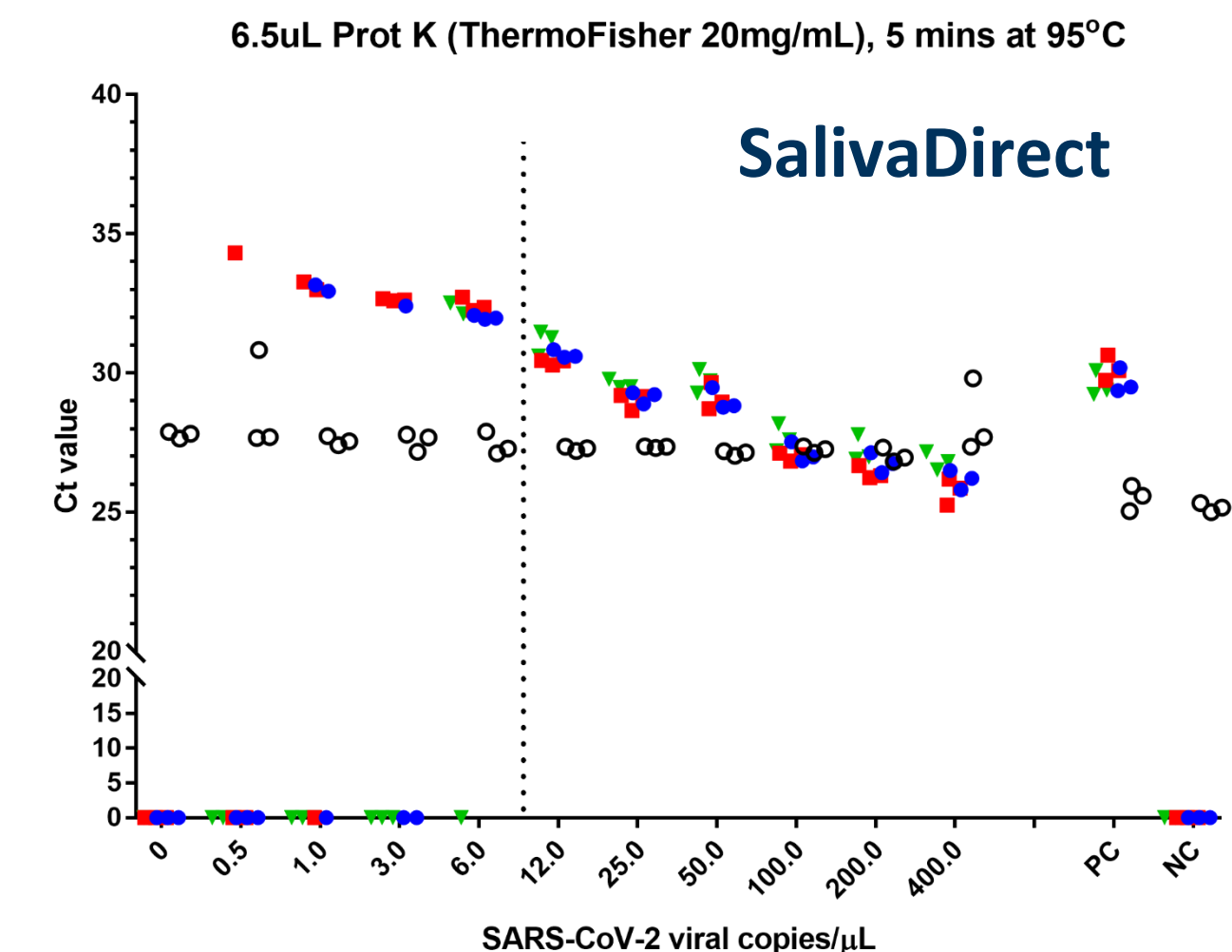
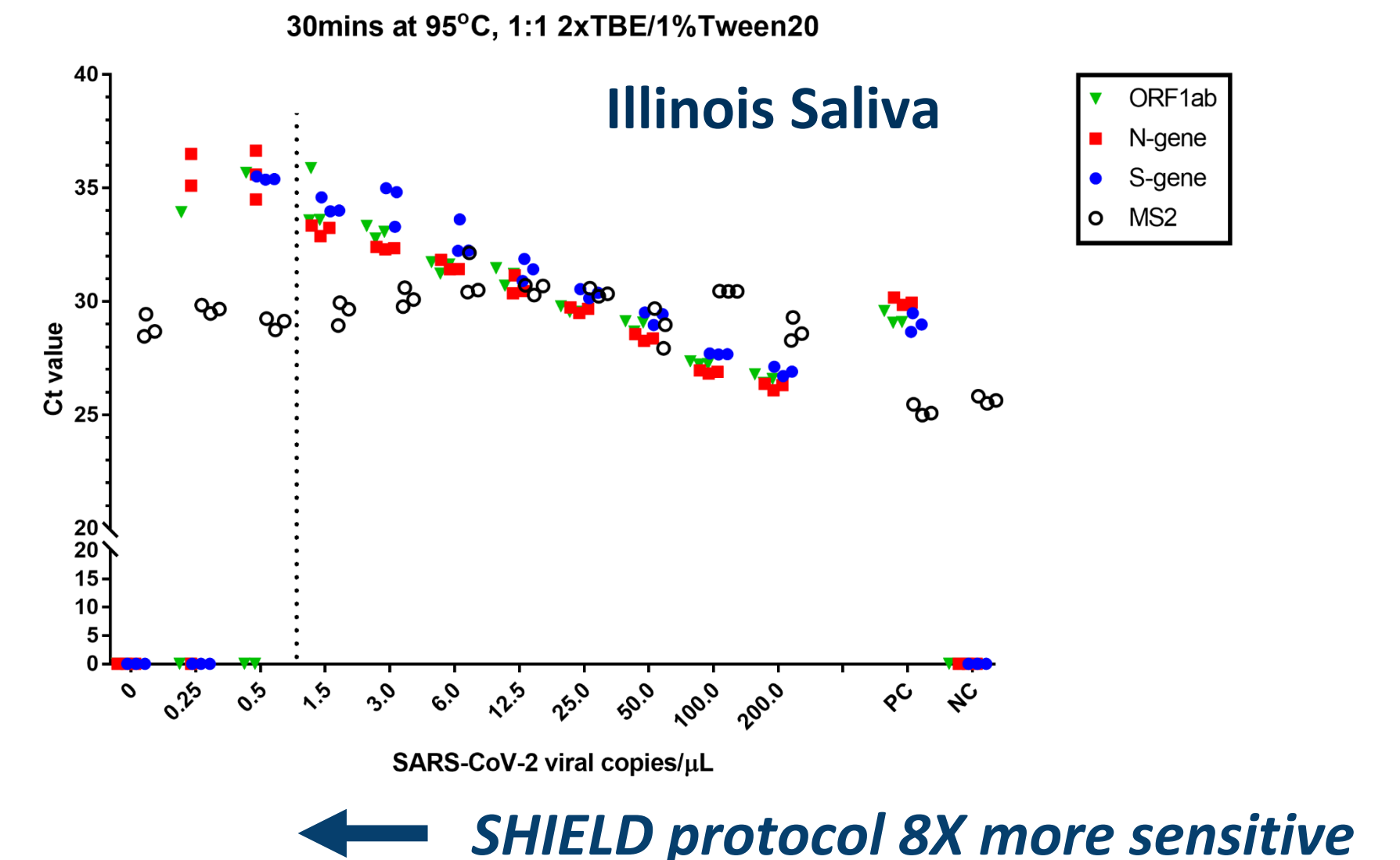
Cost is less than \$10/test, compared to \$30-35 for other saliva-based tests and \$45 for an NP swab

Access

Dedicated local testing so local communities can have fast, accurate, and best cost testing

SHIELD'S TEST IS MORE ACCURATE WITH THE CONVENIENCE OF A SALIVA SAMPLE

- Saliva provides a more relevant indication of infectiousness than nasal swabs
- Our saliva test has very high specificity, reducing the cost and disruption of false positives and the quarantine and isolation that result
- Shield's test has a lower limit of detection (LoD) than other saliva tests – 8 times lower than Yale's SalivaDirect
- We have validated the LoD at 1.5 viral copies per microliter
- Notre Dame, U. of Wisconsin, U. of Oregon, Carnegie Mellon, and many others are using/planning to use the UIUC saliva test



SHIELD DELIVERS THE BEST COST AND REMOVES SUPPLY CHAIN BOTTLENECKS

Standard method:



NP swab



Viral Transport Medium



RNA purification kit



RT-qPCR

**\$40 to 45
per test**

Saliva (FDA EUA approval April 2020):



Saliva collection



RNA purification kit



RT-qPCR

**\$30 to 35
per test**

UIUC Saliva developed by Paul Hergenrother:



Saliva collection



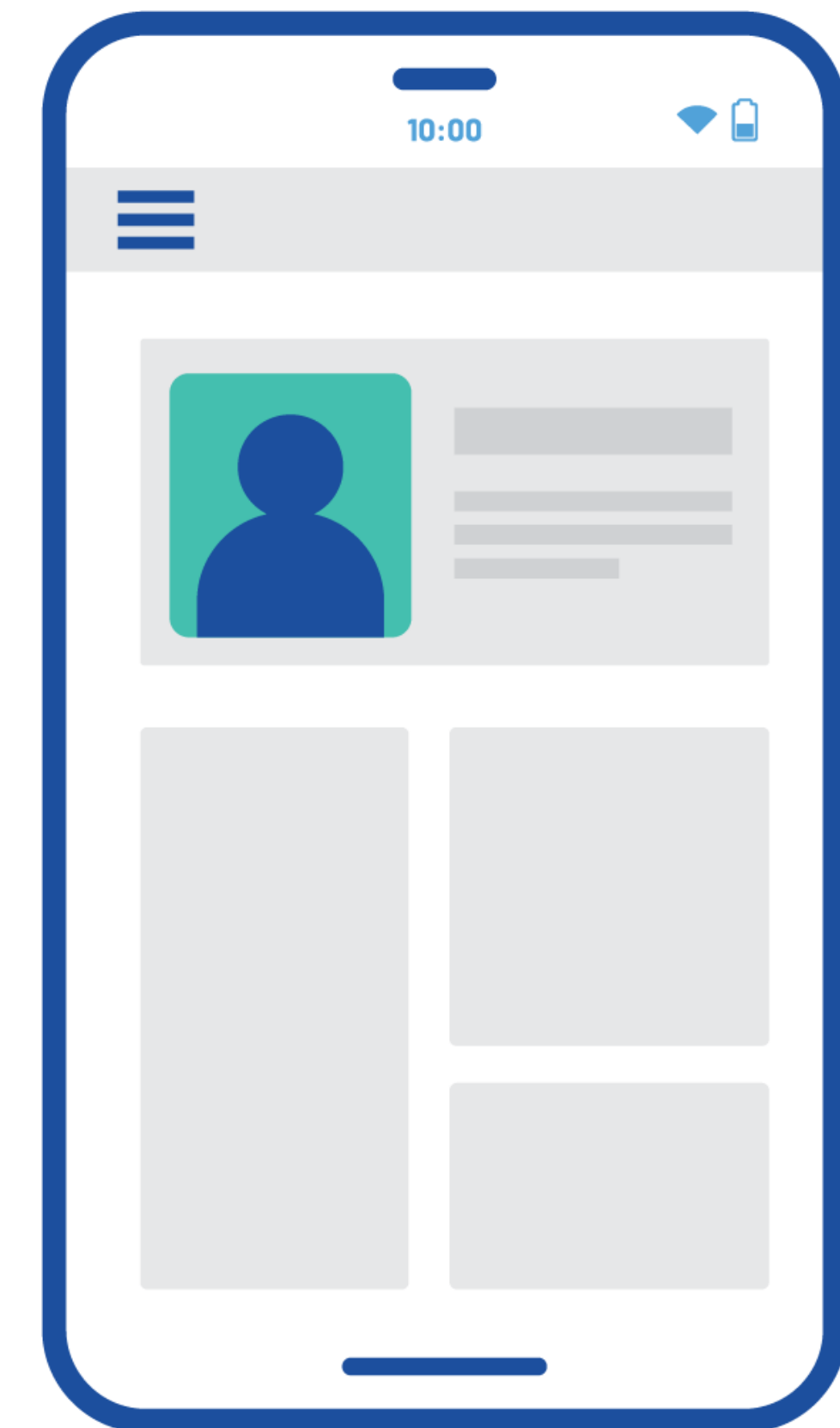
RT-qPCR

**Less than
\$10 per
test***

* Costs are based on consumable costs, lab costs, equipment costs, labor costs but does not include any costs above the lab such as administration, sourcing, financing, etc. Does not include specimen collection costs, which are higher for swabs than saliva. The costs assume a high volume. If the lab operates at volumes below 2,000 test per day these costs are higher.

THE TEST IS JUST THE BEGINNING OF THE PROCESS — FAST NOTIFICATION AND ISOLATION ARE ESSENTIAL

- At UIUC we are able to perform contact tracing and isolation ***within 3 hours of test result***
- For notifications SHIELD uses the Safer Illinois app
 - Supports contact tracing
 - Protects privacy
 - Seamlessly shares results with participants, university and local public health is required
- Our reporting programs are flexible and can work with other common systems like Epic's MyChart or PointNClick.



THANK YOU
HEALTHCARE
WORKERS!



Safer in
ILLINOIS

POWERED BY
I ROKWIRE

Get started



Join the fight against COVID-19

Track and manage your health to help
keep our Illinois community safe

Continue

7:11



How it works

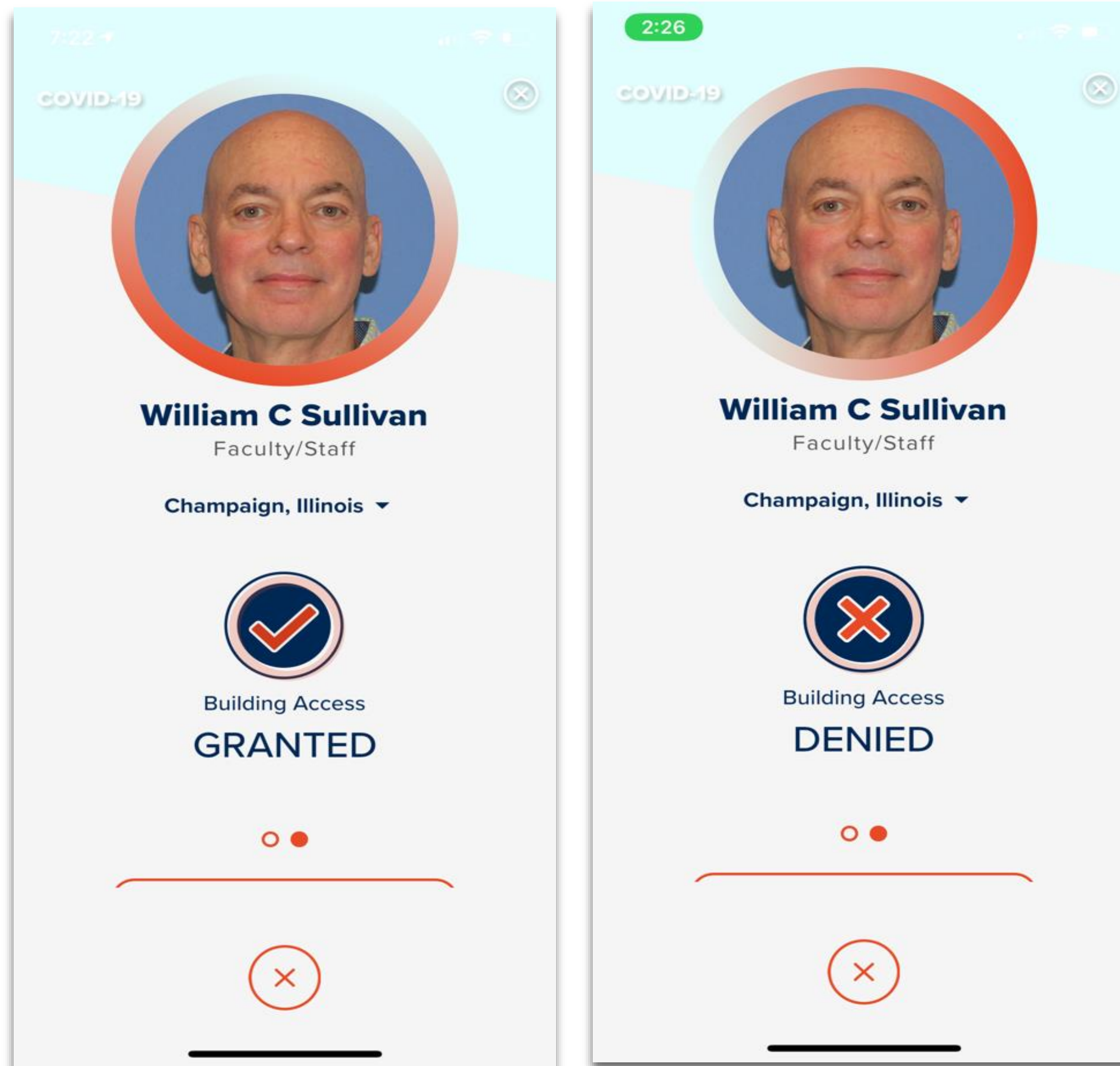
Testing and limiting exposure are key to
slowing the spread of COVID-19.

You can use this app to:

- Self-diagnose your COVID-19 symptoms and in doing so update your status.
- Automatically receive test results from your healthcare provider.
- Allow your phone to send exposure notifications when you've been in proximity to people who test positive.

Next

THE APP IS CENTRAL TO OUR “DO TO DO” MODEL

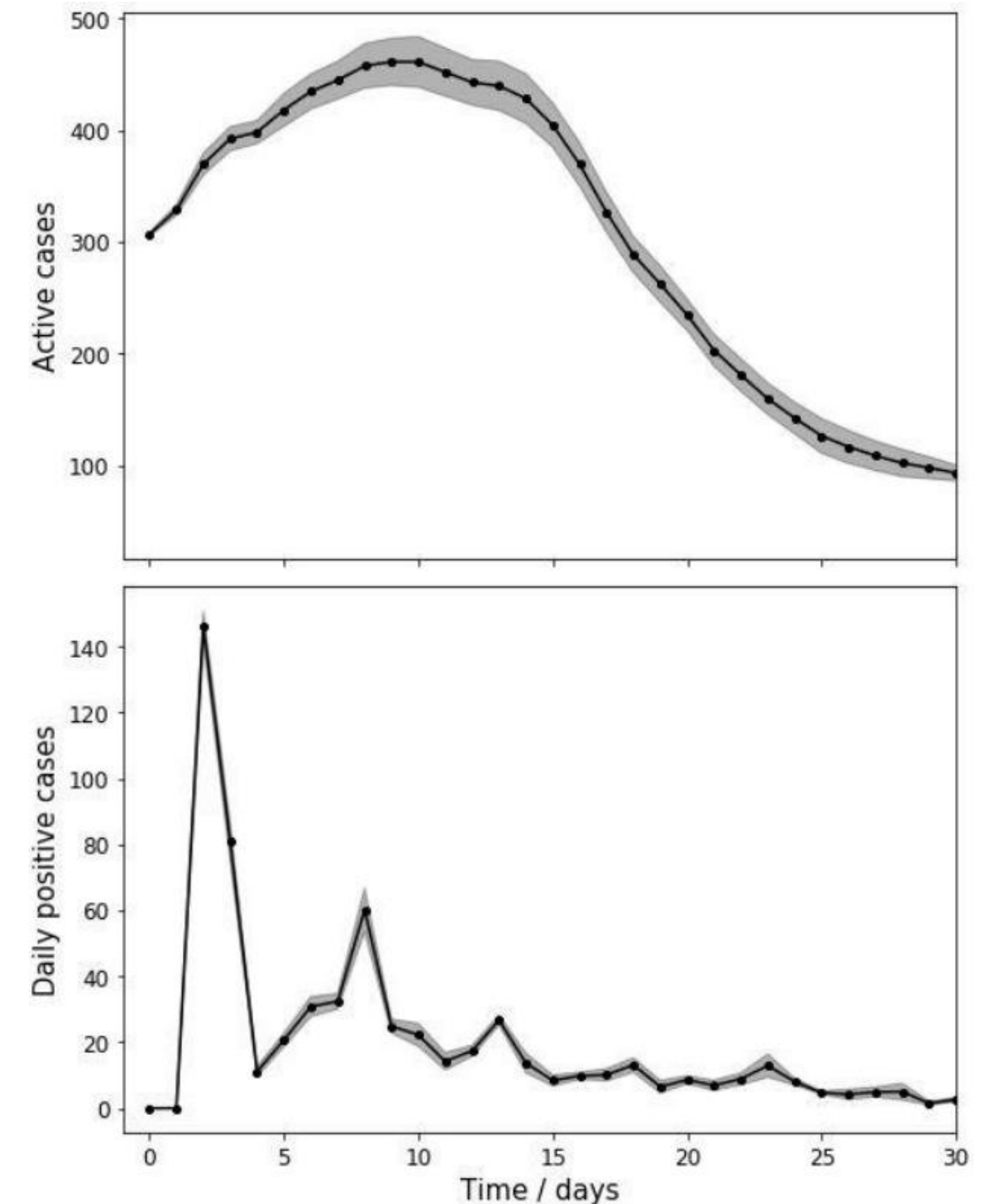


- The “Privacy First” feature that allows the user to manage privacy is critical.
- The application helps with behaviors by requiring compliance for access – Do-To-Do Model.
- A “do-to-do” expectation requires one to “do” what is expected in order to be able to “do” what one intends.
- The University requires a safe status for access to university buildings, based on recent test results, health check status and proximity tracing.
- We have over 45,000 people actively using the application.
- The community has embraced the application demanding a safe status for admittance to their business.
- The App has been surprisingly popular at the University and is now in broad civic use in the broader community (e.g., grocery stores, etc.).

THE SHIELD TEAM MONITORS AND ADJUSTS TO DEAL WITH INEVITABLE ISSUES

- A team of university researchers is devoted to analyzing data and adapting the strategy
 - Change testing frequency for certain cohorts
 - Change policies like increased distancing
 - Expand health education efforts
 - Discipline
 - Better aligns incentives
- The team's success is driven by their deep expertise with the virus and infectious disease modeling

Decay of a virus spike is around a month



EXPANDING OUR IMPACT — SHIELD ILLINOIS AND SHIELD T3

SHIELD ILLINOIS — SUPPORTING THE STATE TO DEPLOY A TESTING NETWORK

After our successful UIUC pilot, we are deploying labs to state-wide testing locations to reduce the overall rate of infection statewide

- Labs are located near high-population areas to increase access
- Locations are selected based on logistical factors like ease of transportation
- This is a public + private partnership leveraging public university facilities to stand up labs
- Labs must be CLIA certified and able to process tests at anticipated capacity

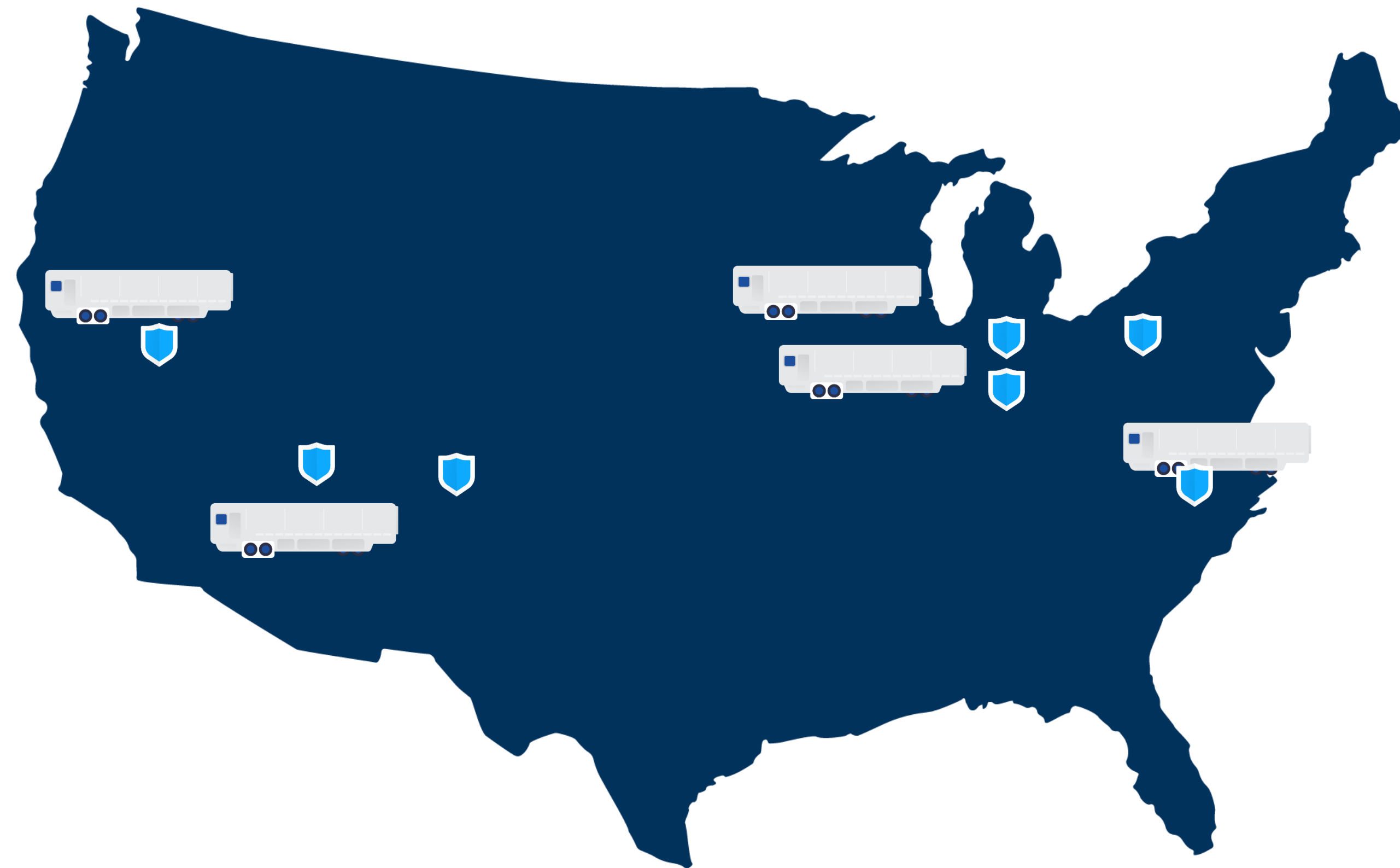


SHIELD T3 — DEPLOYING A TESTING NETWORK ACROSS THE US AND ABROAD



Mobile Labs

- Trailers with fully equipped labs
- 10,000 test/day capacity
- Operated and staffed by SHIELD T3
- Samples collected by the customer

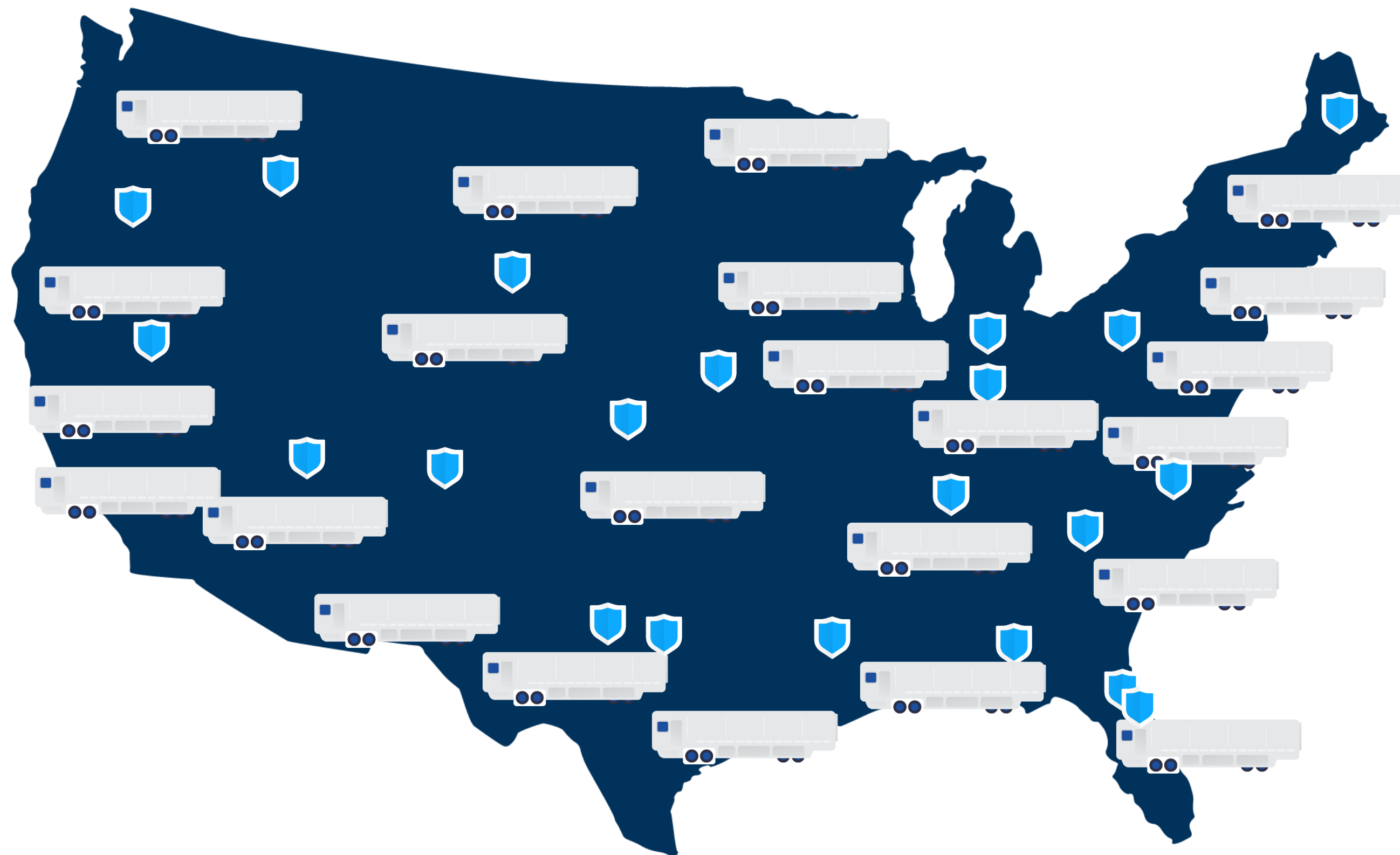


Services

- Consult with customer owned and operated labs (mostly other universities and foreign entities)
- Share set-up and operational knowledge to run the SHIELD T3 test

**BASED UPON OUR EXPERIENCE,
HERE IS WHAT WE RECOMMEND**

SHIELD U.S. — A HYPERLOCAL NATIONAL STRATEGY FOR THRIVING SAFELY AS WE BRIDGE TO WIDESPREAD VACCINATION



Empower local communities across the U.S. to set up SHIELD testing system, with four tiers:

- 25 largest US cities — build testing hubs with 100,000 tests per day capacity
- 50 next largest US cities — build mobile labs with 10,000 tests per day capacity
- All major universities — build labs with 10,000 tests per day capacity
- Help local communities incorporate variants of SHIELD into a customized strategy for reopening primary education by providing a K-12 playbook and associated resources

SHIELD U.S. — ESTIMATED COSTS AND TIMELINES

Costs to build out the labs:

- Labs in 25 cities at 100,000 per city will cost around \$250 million (or \$10 million per city)
- 50 Trailers will cost \$50 million (\$1 million per trailer)

Organizational costs:

- City needs around 20 people above the labs -- \$2 million per year – or \$50 million for 25 cities
- We would need probably another \$0.3 million per trailer or \$15 million for 50 trailers
- State and federal costs are not included

Costs to run the tests for 100 days:

- Testing costs is \$10 per test plus collection costs / transportation costs (\$5 per test), so \$15 per test
- Running 3 million test per day the cost is \$45 million per day
- Running for 100 days or 4 months – will cost \$4.5 billion

Total costs

- Labs -- \$300 million
- Organizational costs -- \$65 million per year
- Running the test for 4 to 5 months is \$4.5 billion

\$20 billion dedicated to testing in new stimulus package

This plan could be stood up and launched over a 5 week timeframe

LEARNINGS: LARGE SCALE TESTING IS THE BACKBONE TO OPENING UP MORE SAFELY AND MORE SUSTAINABLY

Opening up society as much as possible for economic, educational, entertainment and religious activity depends on local successes in testing, contact tracing, isolation, behaviors and thoughtful policies

Overwhelming the healthcare infrastructure is extremely costly and shuts down the economy

Any serious program must address the fundamentals of the virus

Key learnings from various places teach us important lessons:

- COVID is a “cluster” problem – spreading in clusters
- Extensive testing (highly sensitive) is a critical element of containing the virus, only if the turnaround time of the test is less than 24 hours and the test can detect the virus by day 3 of infection
- Quick action in isolating infected individuals must be effective and rapid
- Electronic contact is required but privacy concerns need to be addressed
- Behavioral boundaries are critical both for personal protection and to limit superspreader events
- The virus must be reacted to locally with strong monitoring and benchmarking and policy shifts locally

What does not work:

- Broad and blanket solutions do not work – it requires local precision responses
- Don’t react to lagging indicators like hospitalizations and deaths – it doesn’t work
- You can’t be effective without community involvement and local partnering

WE HAVE NINE RECOMMENDATIONS

- 1. Make SHIELD Illinois Saliva test broadly available as the backbone of national testing**
- 2. Test results that take over 24 hours should not be reimbursed**
- 3. Add over 3 million daily tests and require turnaround times of under 24 hours for all tests**
- 4. Redesign the contact tracing system so it is rapid – less than 12 hours – starting with picking an electronic application – we suggest Safer Illinois application**
- 5. Help, build and train local communities to run and tailor SHIELD to their community**
- 6. Work hard on behaviors and adopt the “do to do” model**
- 7. Actively manage the supply chain constraints. They are real but can be resolved with active management**
- 8. Build out the organization capacity at three levels – federal, state and local**
- 9. Use the Federal stimulus funding so Local Health Departments can set up SHIELD programs**

FIRST RECOMMENDATION: PICK A TEST WITH LOW LIMITS OF DETECTION

Low limits of detection are key for surveillance testing since we must detect the virus as early as possible after infection

All COVID tests are not equal

The SHIELD saliva test is the best option

- It is a PCR test with inherently low limit of detection (LoD)
- Saliva-based tests have a lower LoD than nasal-based antigen tests
- The SHIELD saliva test has lower LoD than other saliva-based tests
- Sample collection does not have the discomfort of nasopharyngeal sample collection, nor does it require trained medical personnel

Antigen tests should be used where speed is of utmost importance

- Antigen tests have inadequate LoDs for surveillance testing
- They do have a significant speed advantage and should be used for testing immediately prior to events (large meetings, air travel, sporting events, dinner events...)

FIRST RECOMMENDATION (CONTINUED) – MAKE SHIELD ILLINOIS SALIVA TEST BROADLY AVAILABLE AS THE BACKBONE OF TESTING

SHIELD test is accurate and compares favorably to other saliva-based tests and antigen tests

- SHIELD saliva test has a validated LOD at 1.5 viral copies per microliter
- Yale's SalivaDirect, for example, is eight times less sensitive than Illinois SHIELD and should not be used
- Antigen tests can only be used for symptomatic patients

In comparison to the other leading saliva-based test, SHIELD's test has a lower LOD and a demonstrated capability to run at very high volumes, up to nearly 17,500 tests per day in on campus

The SHIELD test has very high specificity, reducing the cost and disruption of false positives and the quarantine and isolation that result. We have run our campus testing system for months and most days the positivity rate was 0.3% to 0.4%, implying that the false positive rate is extremely low.

Antigen tests should only be used in symptomatic testing

- On our sports teams, the antigen test only picking up the virus 1 in 9 times against the saliva test
- Based on this data and on the summary data in the recent articles, antigen testing cannot play any role in controlling the pandemic.

SECOND RECOMMENDATION: TEST RESULTS THAT TAKE OVER 24 HOURS SHOULD NOT BE REIMBURSED. THIS ACTION REQUIRES AND WILL FORCE MORE LOCAL DEPLOYMENT OF TESTING

Speed is critical

- Average time between infection and symptoms is 5 ½ days
- Average time between infection and transmission to another person is 5 days
- At least half the infectious people don't know they are

We cannot wait days for test results

- Tests often do not detect the virus the first couple of days after infection
- Most tests are not performed immediately after the virus is detectable
- We cannot afford adding more days before the results are available

Not reimbursing for test results that take over 24 hours provides an incentive for quick turnaround times

- Localized testing capacity (within 3 to 4 hours from sample collection site)
- Quick processing in the lab
- Speedy notification

THIRD RECOMMENDATION: ADD OVER 3 MILLION DAILY TESTS

High testing capacity is needed to open society

- Need extensive testing regimen across densely populated areas
- Create a testing plan for schools – K-12 – for example, test teachers and administrators at least once a week
- Create a testing plan for the communities at large by providing an extensive network of saliva PCR testing collection sites
- Establish the ability for communities to leverage federal resources to build localized SHIELD ecosystems and test twice a week
- Require same day PCR test results for in-door activities like bars and restaurants

Building sufficient saliva-based PCR capacity across four tiers of

- 25 largest US cities — build testing hubs with 100,000 tests per day capacity (\$10 million per hub)
- 50 next largest US cities — build mobile labs with 10,000 tests per day capacity (\$1 million per lab)
- All major universities — build labs with 10,000 tests per day capacity (\$1 million per lab)
- Help local communities incorporate variants of SHIELD into a customized strategy for reopening primary education by providing a K-12 playbook and associated resources
- Labs must be local to meet turnaround requirement (within a 3- to 4-hour drive radius)

Each incremental test will cost less than \$10 per test if you use Illinois Shield Saliva test. 3 million test per day will cost less than \$30 million per day

THIRD RECOMMENDATION (CONTINUED): ACROSS LARGE CITIES ADD AT LEAST 100,000 TEST PER DAY BY BUILDING TWO TEST LAB HUBS IN EACH CITY

The Broad Institute is an example of a very successful testing HUB – they do over 100,000 test per day, but their turnaround time needs to improve to below 24 hours

Build saliva based (not nasal) testing centers, like the Broad Institute, across all major cities

The top 25 metropolitan areas represent more than 40 plus percent of the population (137 million people)

We need to build testing hubs with a combined capacity of at least 2.5 million tests per day across these cities

Work with the mayors and local health departments to do the following

- Set up at least 10 testing production lines with a production capacity of 10,000 test per day per line, using the SHIELD lab template
- Place these production lines in one to two sites across each city. The sites must be BSL level 2.
- Hire and train 20 lab personnel per product line and lab supervisor (200 people per 100,000 tests per day)
- Set up specimen collection sites across the city -- about 20 to 50 collection sites per city use the MSAs (use the Illinois / Shield T3 SOPs for indoor and outdoor sites)
- For larger cities, we should consider increasing the testing capacity beyond 100,000. For smaller cities, the testing capacity should be used beyond the city boundaries.

THIRD RECOMMENDATION (CONTINUED): 50 MOBILE TEST LABS CAN BE QUICKLY BUILT AND DEPLOY ACROSS OTHER CITIES AND COMMUNITIES WITHIN EIGHT TO TWELVE WEEKS

We can scale the production of these labs

We outfit a 52 foot trailer or we can outfit a mobile home

Trailers with fully equipped labs

10,000 tests per day capacity

We would require a full team mobilized efforts

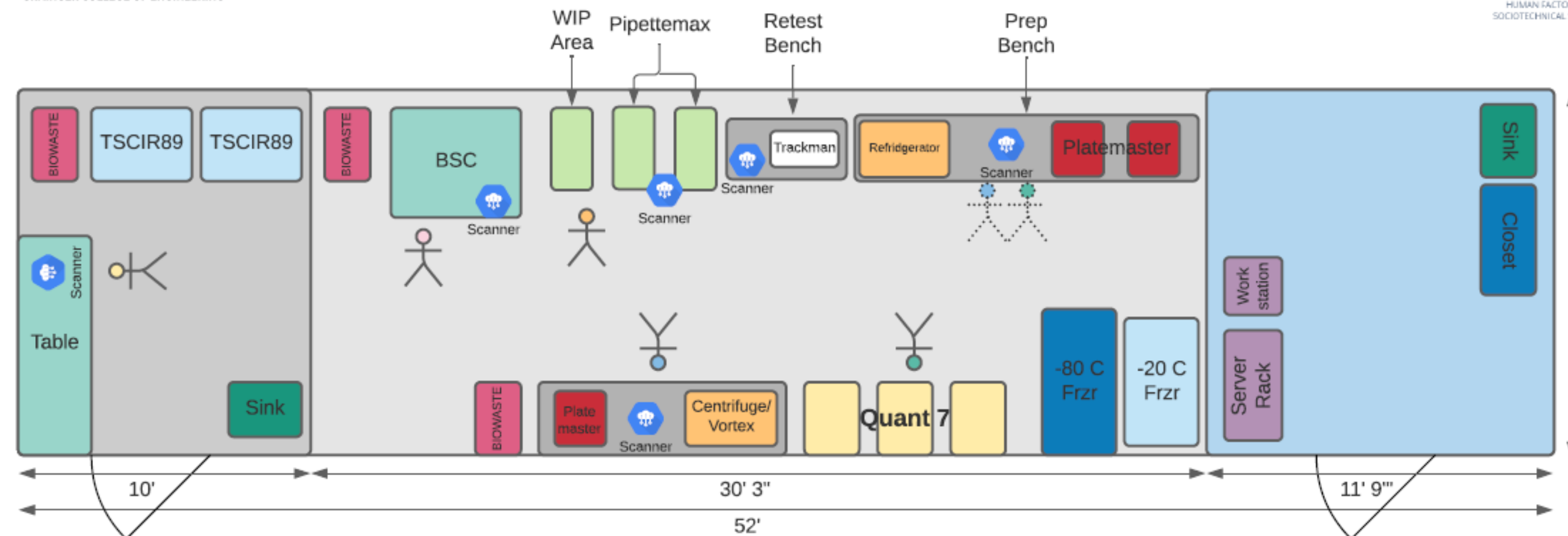
All the pre-work is completed

Four mobile labs are in operation

ILLINOIS
ISE | Industrial & Enterprise
Systems Engineering
GRAINGER COLLEGE OF ENGINEERING

Mobile Shield Lab Process Flow Diagram

(Current as of 15 Sep 2020)



THIRD RECOMMENDATION (CONTINUED): OPEN UNIVERSITIES AND THEIR COMMUNITIES BY DEPLOYING UIUC'S SHIELD TESTING SYSTEM ACROSS ALL UNIVERSITIES

Open up the colleges and college towns through comprehensive testing and contact tracing

Implement the Illinois playbook

- Test extensively -- Set up a CLIA labs to do 10,000 tests – following the Illinois design
- Use existing lab capacity on campuses
- Supplement with mobile trailers as needed
- Set up test collection sites across the campus and community
- Deploy the application across the universities
- Set up monitoring system

Set up the organization for the college / university to work with the local community and health department

- Open up capacity for community testing
- Exchange information on hot spots and outbreaks and act as one
- Define policies to protect the community at large

FEATHER IN THE VACCINES AND REDUCE TESTING IN A PHASED MANNER GUIDED BY DATA

Even with the imminent deployment of vaccines, surveillance testing will still be required for the foreseeable future

But surveillance testing requirements should slowly decrease

Key is to monitor virus prevalence at a granular level and make decisions based on the data

- Monitoring done at a county or even ZIP code level
- Epidemiological models that evaluate the risk at the local level
- Relaxing of behavior restrictions and testing intensity based on the local risk assessments
- Decisive action in hotspots

Goal is to gradually relax restrictions and testing, and so return to normalcy

- Behavior restrictions when the benefits outweigh the risk
- Testing as the risk of outbreaks dissipates
- Vaccinations as a key tool to reduce the risk

FOURTH RECOMMENDATION: REDESIGN THE CONTACT TRACING SYSTEM SO IT IS RAPID – LESS THAN 12 HOURS – STARTING WITH PICKING AN ELECTRONIC APPLICATION – WE SUGGEST THE SAFER ILLINOIS APPLICATION

While test turnaround time is critical for the individual tested, so is contact tracing for those who might have been infected

Manual contact tracing is too slow and ineffective

- It relies primarily on phone calls and returning phone calls
- People resist returning the call and when they do may not be open about their contacts

Electronic exposure notifications are the only effective method, but we must encourage their use

- Electronic exposure notifications are fast and automatic
- Privacy concerns can be overcome (as in the Safer Illinois app, which is widely adopted across campus)
- We must find ways to motivate people to participate

Contact tracing should be both forward and backward to identify superspreader events

We need a SWAT team approach for hotspots

The goal should be to isolate confirmed positives in hours, not days

FIFTH RECOMMENDATION: HELP, BUILD AND TRAIN LOCAL COMMUNITIES TO RUN AND TAILOR SHIELD TO THEIR COMMUNITY

The University of Illinois / Shield T3 playbook is a good starting point that can be adapted locally as needed

Help local communities tailor the SHIELD model into customized local strategies

- Test extensively
- Mobile trailers are the standard increments of capacity, but can be shared with neighboring communities
- Aggregate capacity requirement is about 1.5 million tests per day to cover the 108 million people outside the largest 75 MSAs

Build a full training process to work with the local communities to:

- Find appropriate sites for the mobile labs
- Hire and train 15 lab personnel per trailer plus 2 supervisors
- Fit production lines (per SHIELD template)
- Create the collection sites across the community (we have the SOP for indoor and outdoor sites)
- Stand up a program to protect the vulnerable: long-term care facilities, childcare facilities, K-12 schools

SIXTH RECOMMENDATION: WORK HARD ON BEHAVIORS AND IMPLEMENT THE “DO TO DO” MODEL – PEOPLE WILL, OVER TIME, DO THE RIGHT THING IF ALLOWED --

Creating a safe environment depends on everyone taking responsibility for protecting others and well as themselves.

A “do-to-do” expectation requires one to “do” what is expected in order to be able to “do” what one intends. The simplest and most basic example is requiring masks and social distancing in public areas

The U of I System’s “Safer Illinois” phone app takes the “do-to-do” model to the next level, and links building access to recent test results, health check status and proximity tracing. It works and is adopted by local bars and restaurants

ACTION RECOMMENDATIONS:

- Require and monitor mask wearing in public nationwide – it is essential to slow down the transmission.
- Adopt and encourage the use of the “Safer Illinois” application (can be renamed to, e.g., Safer “local community” and its safe status requirements – this is a critical aspect of curbing the spread in any community.
- Develop a device or give out phones for people who cannot afford phones.
- Encourage workers to stay home if their status is unsafe by paying a portion of their salaries (limit it to workers with incomes below an agreed to annual salary)

SEVENTH RECOMMENDATION: SUPPLY CHAIN CONSTRAINTS ARE REAL BUT CAN BE RESOLVED WITH ACTIVE MANAGEMENT

The Illinois Saliva test is simple and you can manage through the equipment constraints

- We will need around 900 to 1000 PCR machines at 398 well plates
- We will need 300 pipette systems
- We will need 600 thermal baths
- We will need 300 centrifuges machines
- We believe this could all be produced within a number of weeks

The Illinois Saliva test is simple using only a few consumables

- Most of the consumables are injection molded – included the tubes and funnels
- We can scale up the injection molding by building hard tooling to meet the anticipated capacity (4 weeks)
- The pipettes are more difficult and would need special attention. It should be solved by a couple routes
- We use limited reagent and would need to work with PCR manufactures to increase production

A dedicated team of 20 to 30 people should work centrally to develop a full and capable supply chain

EIGHTH RECOMMENDATION: BUILD OUT THE ORGANIZATION CAPACITY AT THREE LEVELS – FEDERAL, STATE AND LOCAL

We should be very clear the roles of each level of the organization

Efforts to mitigate the virus need to be led and managed locally, by competent, energized teams. The virus is disproportionately spread through super-spreader events. *There needs also Federal coordination around learnings and supply chain issues and reactions to issues*

Expectations regarding personal behaviors are key – a locally-driven approach is known to be more effective for long-term success of public health programs. Local community groups must help and can greatly improve adherence and compliance, and promote community cohesion and family resilience in the face of this crisis.

All the teams need to be accountable and make their performance transparent

The states must focus their messaging on their goals and the role that its citizens play in achieving them,

A federal group will work with corporations and State / Local teams across to state to build a statewide network of capabilities.

Coordinate a statewide response including compliance, enforcement and policies, and mental health improvements.

EIGHTH RECOMMENDATION (CONTINUED): PUT IN A PROGRAM OFFICE AT THE FEDERAL AND STATE LEVELS

We should be very clear the roles of each level of the organization

The Program Office should ensure success of the program. Specific activities include:

- **Manage and drive initiative milestone tracking and standardized reporting for initiatives already booked**
- **Continue “booking” new and “day to day” initiatives to minimize implementation risk and to close the gap**
- **Coordinate and set agenda for communication forums**

In addition, the program office will continue to drive changes and refinements to existing processes/ reporting tools as needed.

NINTH RECOMMENDATION: OFFER/SUGGEST TO LOCAL PUBLIC HEALTH DEPARTMENTS THE OPTION OF USING THE RECENTLY APPROVED STIMULUS FUNDING TO SET UP A LOCAL SHIELD PROGRAM

- Public reports suggest the new stimulus package includes \$20B for testing. A fraction of these funds would be sufficient to set up SHIELD across much of the U.S. We recommend that local public health departments be given the option to use this \$ to deploy SHIELD locally, and adapt the SHIELD playbook as they see best fit for their local community. This allows SHIELD to be deployed nationally by encouraging and supporting its voluntary hyperlocal deployment. This model maximizes local buy-in and permits local optimization as needed with on-demand support from national program office.

AN UNPRECEDENTED PANDEMIC REQUIRES AN EXTRAORDINARY RESPONSE

THANK YOU

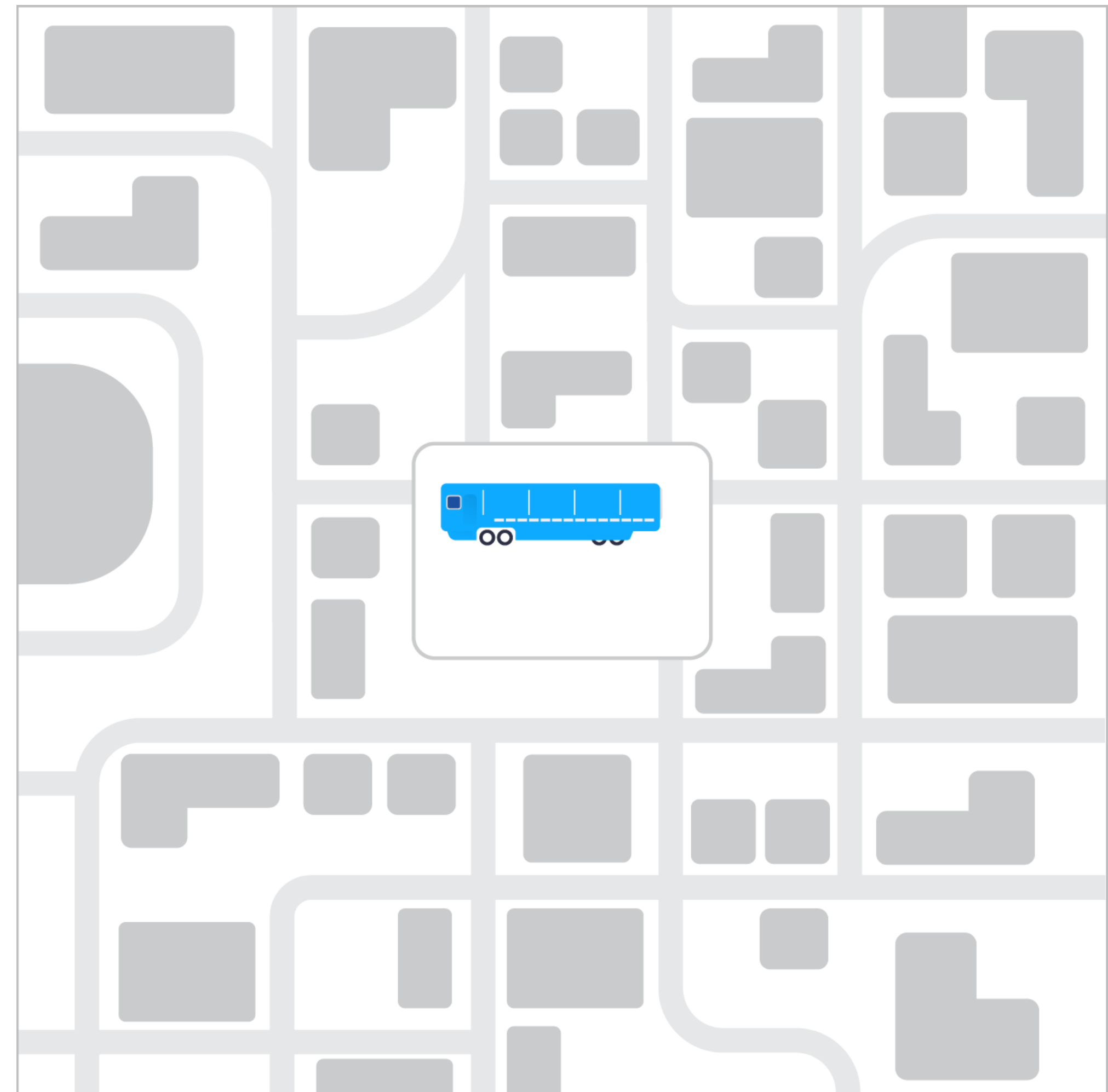
WE FOLLOW THE SCIENCE

- **Protect the vulnerable**
- **Behaviors are critical** – the “Do to Do” model
- The virus spreads in clusters (**superspreading events**) – 10 percent contribute to 80 percent of the spread
- As many as half of the cases are **asymptomatic** – catch by day three
- **Speed is everything** – fast testing (turnaround time less than 24 hours) and fast contact tracing (contact made with exposed individuals in less than 12 hours)
- A **multimodal approach** has proven to work: Masks + Distancing + Testing + Tracing + Quarantining + Enforcement
- Success requires **three-tiered approach** (Fed, State and Local)
- Fighting Covid-19 is not a short-term battle

SHIELD IS DESIGNED TO INTEGRATE WITHIN THE COMMUNITY – BEING LOCAL IS ESSENTIAL

One of the key challenges to fast turnaround testing is the time it takes to transport samples to the lab.

We solve that problem by integrating a fully equipped and certified **mobile lab** into your community with the capacity to provide up to 10,000 tests a day.

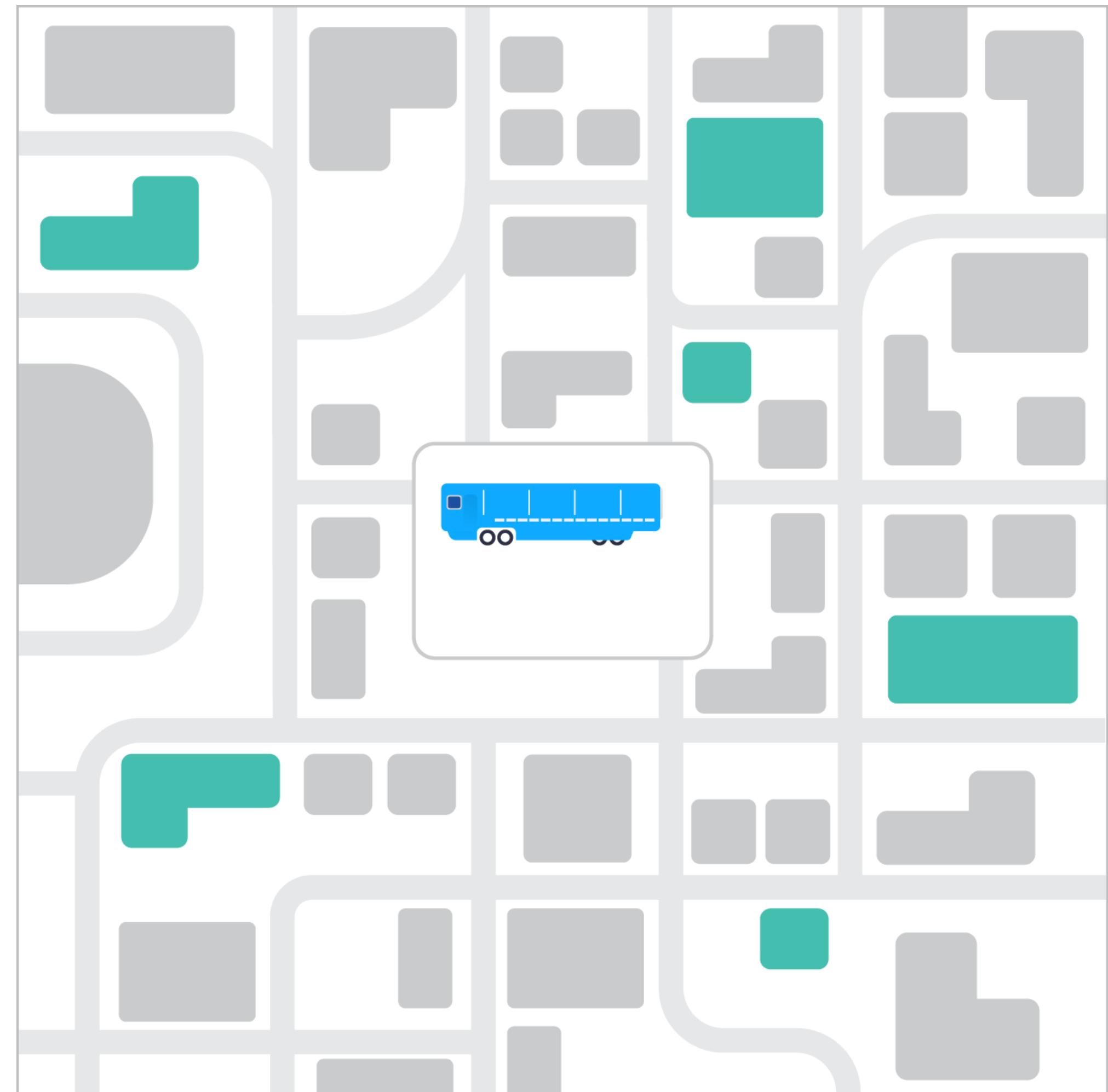


WE WORK WITH YOUR COMMUNITY TO MEET YOUR TESTING NEEDS

The **mobile lab** is placed on a site that you choose.

Collection sites are set up where participants can give saliva samples under the supervision of trained team members.

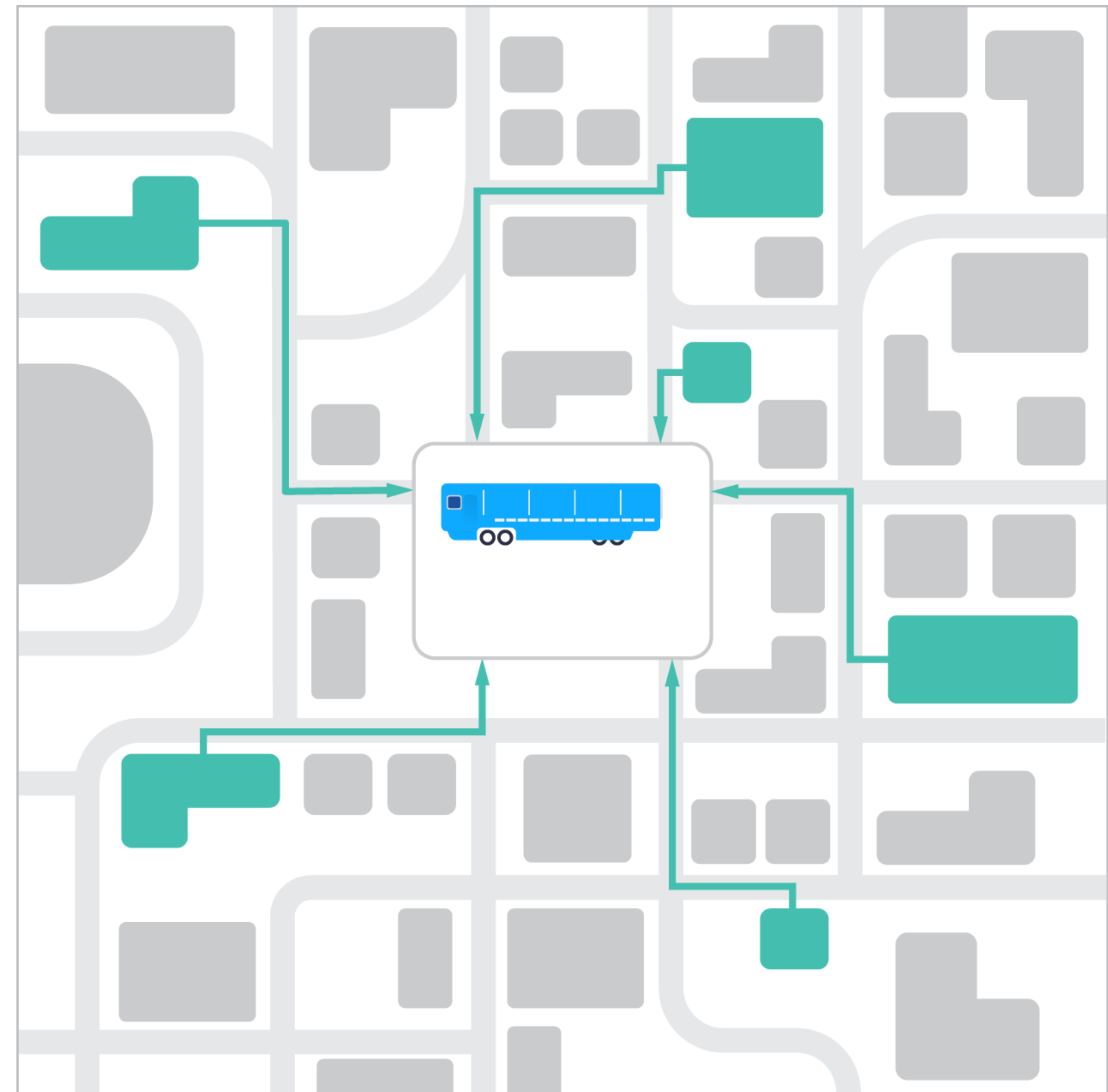
Schedule tests and send us a roster to know who's being tested when.



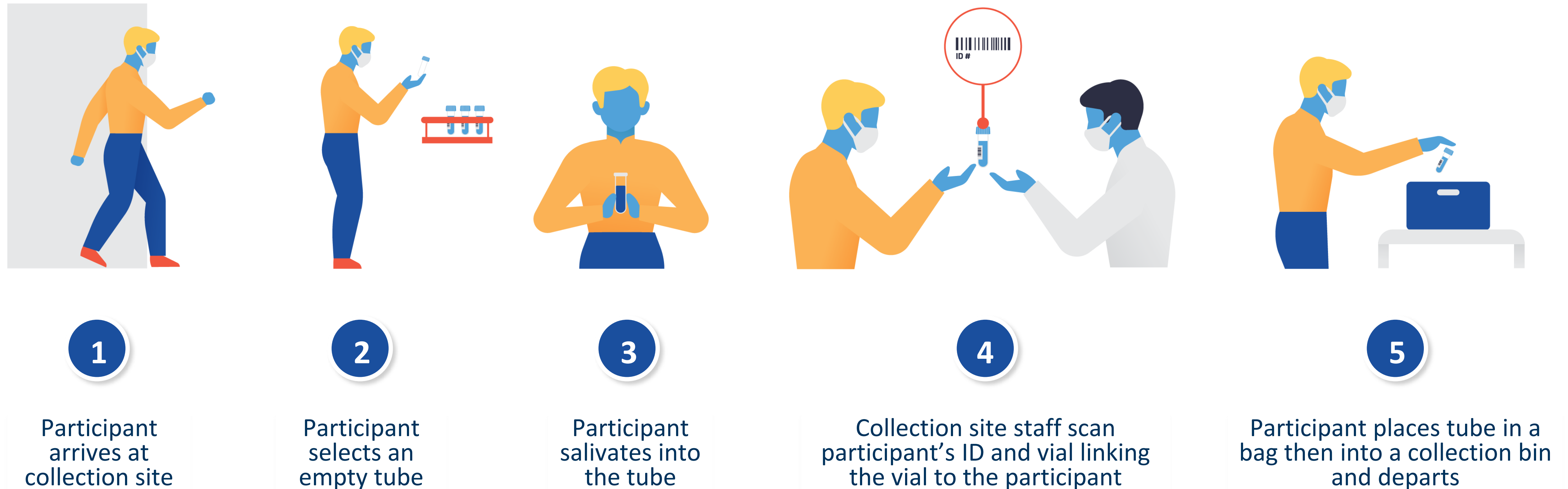
YOU DELIVER THE SAMPLES FROM THE COLLECTION SITES, WE RUN THE TESTS

Whether yours is a self-contained community or a consortium of community partners, your final responsibility is to **transport collected samples to our mobile lab for testing.**

We take it from there.



THE PARTICIPANT'S COLLECTION EXPERIENCE TAKES LESS THAN THREE MINUTES



ONCE AT THE LAB, SAMPLES ARE PROCESSED IN TWO HOURS ON AVERAGE

