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# Covid-19 Testing in K-12 Settings A Playbook for Educators and Leaders

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# Disclaimer

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**Covid-19 Testing Program Development and Implementation.** All aspects of an organization’s Covid-19 testing program, including, but not limited to, vendor selection, protocols for diagnostic testing, contact tracing, and related public health measures for responding to and preventing the spread of Covid-19, including the implementation and administration of such programs (collectively, a “testing program”), are the sole responsibility of the organization implementing and developing the testing program, and each such organization must make its own independent decisions regarding if and how the organization develops and implements its testing program.

**The Rapidly Evolving Landscape.** The virus that causes Covid-19 (SARS-CoV-2) is a complicated, novel virus. As of February 2021, there are currently only limited treatment options. Tests, therapeutics, and vaccines for Covid-19 are authorized under Emergency Use Authorizations from the Food and Drug Administration (FDA). This means that under section 564 of the Federal Food, Drug, and Cosmetic Act, the FDA Commissioner may allow unapproved medical products or unapproved uses of approved medical products to be used in a public health emergency when there are no adequate, approved, and available alternatives. The FDA balances the potential risks and benefits of the product based upon available data, without waiting for all the evidence that would be needed for official FDA approval or clearance. Covid-19 also has variants, which some testing platforms may not be able to detect.

For these reasons, any information or advice in this playbook about the virus, Covid-19, and about how to develop and implement a testing program is likely to become outdated. Ultimately, it is your responsibility to adjust your testing program based on the latest science and public health guidelines.

**Purpose and Limitations of a Testing Program.** There is no known cure for Covid-19. At most, a testing program can reduce the spread of SARS-CoV-2. No testing program can eliminate all risk of infection and spread. Some individuals who are infected with the virus may suffer significant health issues, including death or long-term effects, most of which are unknown. Also, nothing can stop individuals from ignoring protocols and engaging in risky behaviors, which could lead to outbreaks, and even death.

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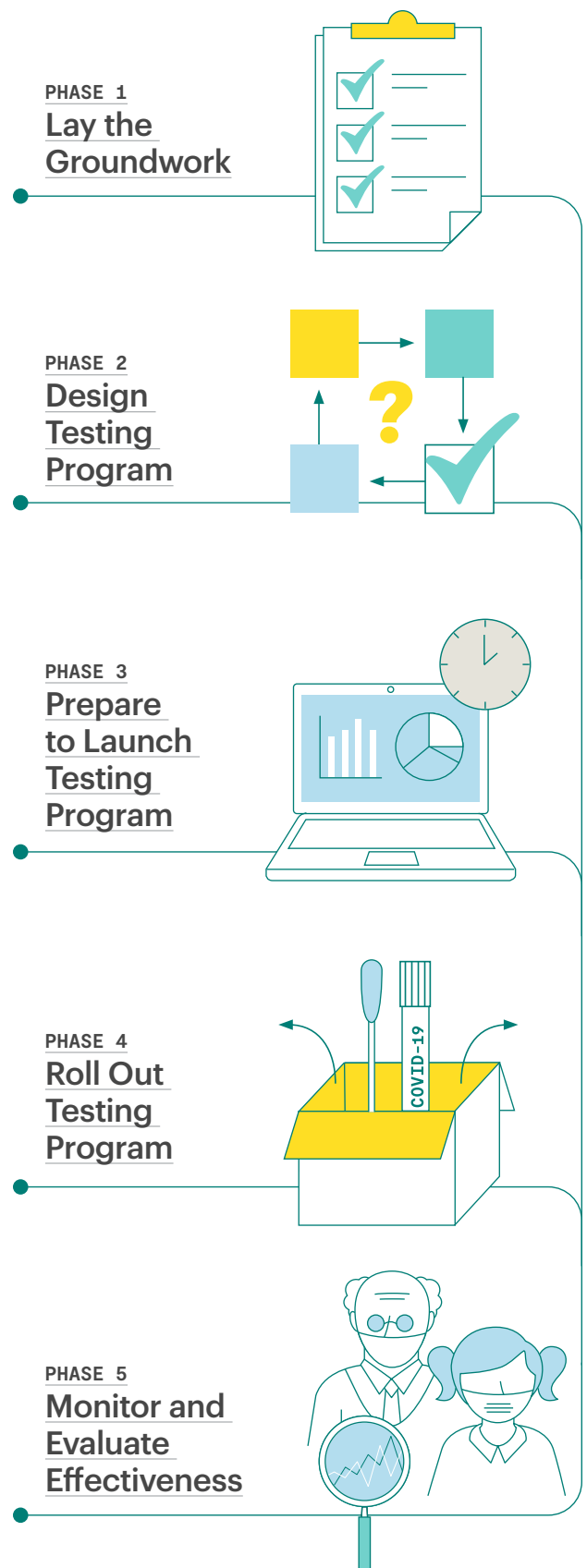
# Executive Summary

**This playbook is designed to offer detailed, step-by-step guidance to help educators, leaders, and their public health partners put testing recommendations into action.**

It was developed by Testing for America, a nonprofit dedicated to helping organizations reopen safely with expanded Covid-19 testing with support from The Rockefeller Foundation and the Skoll Foundation.

From the beginning of the Covid-19 pandemic, The Rockefeller Foundation has advocated for the critical role of active disease testing to quickly diagnose people with Covid-19 and reduce transmission – especially in K-12 schools.

The playbook expands on the high-level [Covid-19 testing protocols for K-12 schools](#) released in October 2020 as well as the recommendations called for in the Foundation’s December 2020 [Taking Back Control: a Resetting of America’s Response to Covid-19](#). It is a critical next step to make testing actionable and achievable for students, teachers, and staff in our nation’s K-12 schools – and is deeply informed by the operational experience and learnings from school district and public health leaders around the country over the past six months.



In an effort to mitigate the immediate and long-term impacts of school closure, school systems across the country have worked tirelessly to reopen schools in coordination with health agencies, students, families, and the public at-large. This playbook is designed to support and expand these collective efforts. It is anchored in the best available evidence about who to test, when to test, and how to test in a K-12 school setting. We hope that this playbook will bring you one step closer to making testing a reality for your school community.

As you go through the document, you will see “Examples in Action.” These examples are based on separate, but complementary, research efforts conducted by [Mathematica](#) and [RAND](#) and funded by The Rockefeller Foundation. These teams conducted more than 90 interviews with school, district, and state education stakeholders, as well as their public health partners, to understand the promising practices, challenges, and opportunities to improve K-12 Covid-19 testing programs. The examples also draw from insights and experiences shared during The Rockefeller Foundation’s Cross-City Learning Group, a community of practice that includes school district and public health leaders from across the country who share lessons learned and receive guidance on testing from experts in public health, diagnostics, and other areas. In addition to step-by-step guidance and real-world examples, this playbook includes a list of close to 100 reference documents, sample materials, and other tools shared from practitioners across the country. Links to these resources can be found in the [Appendix](#).

While this playbook exclusively focuses on testing, testing should be thought of as simply an extra layer of protection – done in conjunction with masking, distancing, good ventilation, hygiene, and vaccines, when available. Each mitigation measure is imperfect on its own, but, when layered together, will create stronger, more resilient protection to prevent transmission in schools.

## Where should you start in this playbook?

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Different schools/school systems will be at different stages in planning their testing programs. Answering the following questions can help you decide where to start in the playbook:

**1. Have you already decided on your basic testing purpose (e.g., if testing will be restricted to ONLY symptomatic individuals or close contacts on confirmed positive cases, or if there will also be routine testing of individuals)?**

- **IF YES**, do you have a testing task force or a group of partners who is working with you to develop a testing program?
  - **IF YES**, start at [Select Test Types and Collection Methods](#)
  - **IF NO**, start at [Form a Testing Task Force](#) and then skip to [Select Test Types and Collection Methods](#)
- **IF YOU HAVEN NOT MADE ANY DECISIONS** about testing yet, continue reading.

## The benefits of Covid-19 testing in a school environment

Covid-19 testing in K-12 schools presents several major benefits, including the following:

### 1. Testing can help reduce community spread and keep schools open.

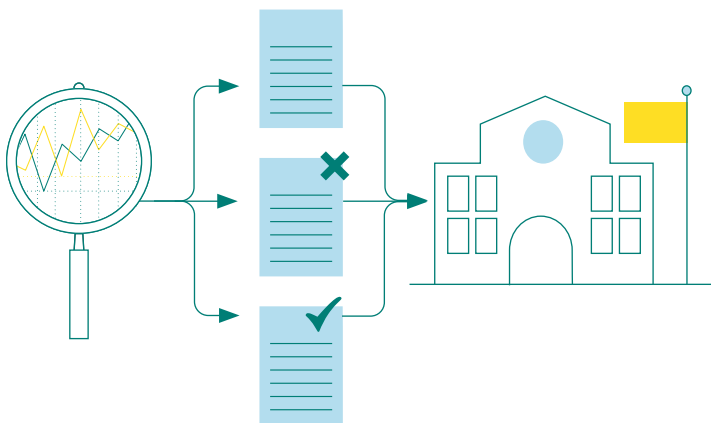
According to the CDC, at least 50% of infections are likely contracted from someone that is asymptomatic (showing no symptoms) or pre-symptomatic (not currently showing symptoms but may develop them in the future). A routine screening testing program, which regularly tests people without symptoms or known exposures, is a crucial tool to reduce “silent” spread of the virus and can protect students, teachers, and staff.

### 2. Testing in schools can help ensure equitable access.

Some families may be unable or unwilling to seek regular testing if it is not offered on school grounds.

### 3. Testing increases confidence in schools’ reopening plans.

Students, parents/guardians, and staff may be anxious about returning to in-person learning without knowing whether they may be exposed to infection by others in the school community. Strong testing programs with regular and transparent data sharing can help calm concerns about school safety.



**“The value of testing is that it allows [the school district] to identify and isolate asymptomatic individuals ‘that would have been in our buildings.’”**

District Administrator, Westminster Public Schools in Colorado, according to [RAND](#) report

**“If people don’t have cars, they are not going to go to the site to get tested. They need it to come to them.”**

Testing Lead,  
New Orleans Public Schools in Louisiana, according to [Mathematica](#) report

### EXAMPLE IN ACTION

RAND summarized findings from a regular survey Wellesley Public Schools in Massachusetts conducted of parents and staff to understand their views on testing. In surveys conducted at various points during the fall 2020 semester, only 12% of staff and 39% of parents reported feeling mostly or very comfortable returning to school without baseline Covid-19 testing. Following baseline testing, 82% of staff and 87% of parents said they felt reassured about the safety of returning to school.

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# 1

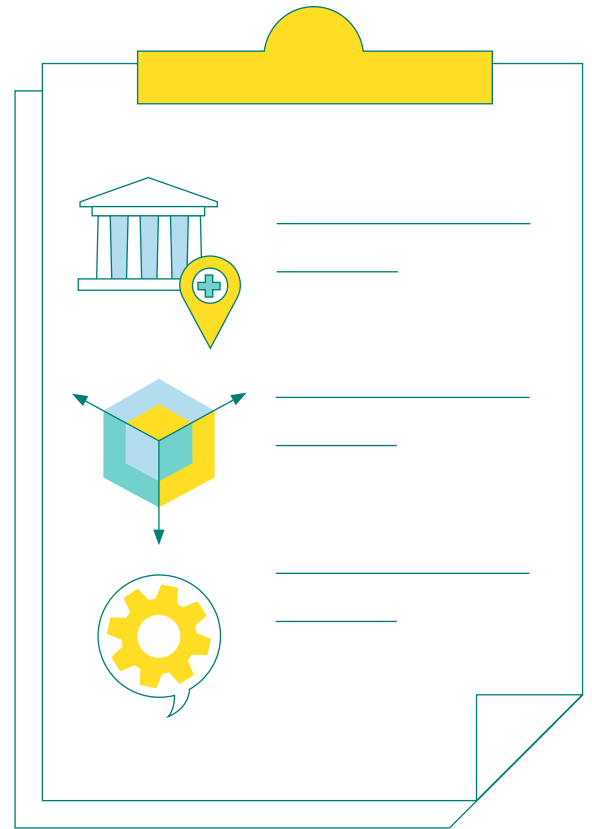
## Lay the Groundwork

This section describes the resources you should gather before you begin to design and implement your testing program.

### 1.1 Form a testing task force

Early on, identify individuals to form a testing task force that will design, implement, and continuously improve the testing program. The task force should work closely with the group(s) leading the school or district's reopening plan. Members could include health professionals, school administrators and board members, facilities management, parents/guardians, staff, and teachers, as available, to ensure that the testing program:

1. Adheres to local and federal public health recommendations
2. Is feasible to implement with the resources available
3. Is acceptable and widely communicated to parents, staff, and students

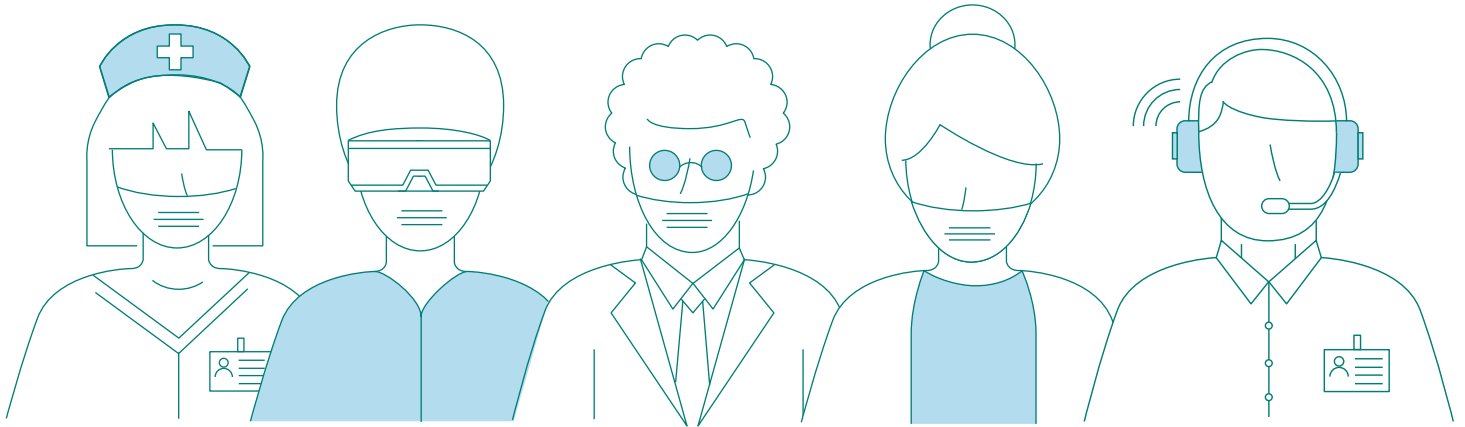


The testing task force will be the "nerve center" of the entire operation—acting as the face of the testing program and managing the planning, implementation, and communications necessary to implement testing at schools. Task forces are found to be most successful when they accomplish the following:

1. Organize cross-functional teams to focus on problem solving
2. Consistently monitor data to ensure that decisions are well-supported
3. Balance immediate needs while maintaining a focus on longer term strategic priorities
4. Maintain external orientation to continue learning on priority areas
5. Monitor the pace of work to avoid team burnout

**TABLE 1 Task Force Roles and Responsibilities**

**Table 1** lists suggested roles and key responsibilities of task force members, which can be adjusted based on the size and scope of the program. Not all roles will need to be staffed from the start of planning. A few key personnel can initially share multiple functions, and the task force can then slowly expand based on requirements as the program is scaled up.



ROLE	RESPONSIBILITIES	EXAMPLE STAFF
<b>District Coordinator</b>	<p>Serves as a liaison to the local public health authority, superintendent, and school board</p> <hr/> <p>Reports any confirmed Covid-19 cases in schools to local public health authority per local requirements</p> <hr/> <p>Maintains and updates school case and close contact list (example here) for the district</p> <hr/> <p>Distributes protocols, procedures, and resources to school Covid-19 coordinators based upon most recent public health guidance</p> <hr/> <p>Updates protocols, procedures, and school resources based on new or revised guidance from the CDC and/or local public health authority</p> <hr/> <p>Serves as the point of contact for questions and information for the community at-large as well as related stakeholders/school district partners</p> <hr/> <p>Works with local government to procure government allocated testing supplies and/or funding</p> <hr/> <p>Works with the district superintendent and school board to determine what parts of a testing program require school board approval and where waivers can be granted to district policies such as some purchasing requirements that could slow down implementation</p>	<p>Chief of Staff or Chief Operating Officer</p>



ROLE	RESPONSIBILITIES	EXAMPLE STAFF
<b>School Coordinator</b>	<p>Builds a diverse testing committee to oversee school testing strategy and set key performance indicators to measure success</p> <hr/> <p>Alerts District Covid-19 Coordinator of positive cases in school via case and close contact list</p> <hr/> <p>Manages internal and external communications regarding outbreak status of the school</p> <hr/> <p>Makes notifications about exposures</p> <hr/> <p>Coordinates collecting parental consent</p> <hr/> <p>Manages master student parental consent list</p> <hr/> <p>Serves as primary point of contact to answer questions and provide information for staff, students, and families</p>	Principal or Vice Principal
<b>Test Coordinator</b>	<p>Oversees the collection of test samples and proper storage of supplies</p> <hr/> <p>Distributes collection kits and swabs to classrooms/test sites</p> <hr/> <p>Ensures all sample collection tubes are returned at end of day</p> <hr/> <p>Registers sample collection tubes and fills out necessary paperwork for test kits (if conducting pooled approach)</p> <hr/> <p>Updates student roster as students are tested, and ensures correct students are tested on correct days</p>	School Nurse or Health Clerk
<b>Covid-19 Ambassadors</b>	<p>Shares information with students and staff about the school's testing program, including importance, impact, and any changes to the program</p> <hr/> <p>Collects feedback from students and parents/guardians and staff on ways to improve the testing program</p> <hr/> <p>Answers ad-hoc student and parent/guardian questions about the school's Covid-19 testing program</p>	Communications team member and school-based designees (both staff and students) who get trained
<b>Communications Lead</b>	<p>Develops all communications regarding the school's/district's Covid-19 testing strategy and reopening plans</p> <hr/> <p>Holds forums for parents and families to explain testing strategy and generate confidence in community</p> <hr/> <p>Coordinates information-sharing between all stakeholders through the appropriate points of contact</p> <hr/> <p>Develops the reporting processes for communications to local/state government bodies, parents, staff, and local public health authority</p> <hr/> <p>Informs broader school Covid-19 communications with updated information on mitigation strategies (e.g., hand hygiene and physical distancing)</p>	Director of Communications or Chief of Staff

ROLE	RESPONSIBILITIES	EXAMPLE STAFF
<b>Vendor Management Lead</b>	<p>Determines the best-fit vendor for school based on resources and testing approach</p> <hr/> <p>Coordinates vendor-specific training of test administrators</p> <hr/> <p>Disseminates information on test kits, registration, and reporting from vendor to school, staff, and parents</p> <hr/> <p>Establishes an ordering cadence for sample collection kits</p> <hr/> <p>Troubleshoots any supply or other issues with vendors</p>	Chief Operating Officer, Purchasing Director, or designee
<b>Facilities Management Lead</b>	<p>Develops Covid-19 cleaning and disinfecting plans per the <a href="#">CDC</a> and Department of Health guidance</p> <hr/> <p>Alerts custodial staff to any rooms or areas where positive case contact has been made</p> <hr/> <p>Notifies the custodial staff of their designated areas and oversees cleaning and disinfection</p> <hr/> <p>Ensures that affected areas are not used until adequately cleaned</p> <hr/> <p>Oversees regular disinfection of Covid-19 isolation and testing areas</p> <hr/> <p>Updates the cleaning/disinfecting protocols and procedures per guidance</p> <hr/> <p>Facilitates any necessary updates to the ventilation system or room layout to maintain optimal physical distancing</p>	Director of Facilities or Director of Operations
<b>Learning and Improvement Lead</b>	<p>Works with testing task force to develop objectives for the testing program</p> <hr/> <p>Develops a monitoring and evaluation plan based upon the <a href="#">CDC Monitoring and Evaluation Checklist for K-12 Schools</a></p> <hr/> <p>Develops <a href="#">metrics, questions, and key performance indicators</a> for evaluation</p> <hr/> <p>Determines when data should be reviewed for program iteration</p> <hr/> <p>Communicates key evaluative findings to the testing task force to inform data-driven decisions to iterate on testing strategy</p>	Designee from accountability or data offices
<b>Data/IT person</b>	<p>Builds, procures, and/or maintains systems used to collect data on testing inventory, procedures, and results</p> <hr/> <p>Integrates new data systems with the school’s existing infrastructure</p> <hr/> <p>Ensures security of data infrastructure and compliance with applicable law</p> <hr/> <p>Develops and maintains reporting and dashboarding functions</p>	Director of IT, Director of Analytics, or equivalent

## 1.2 Identify partnerships

Engage your local public health authority, healthcare providers, state and local governments, and community organizations to help inform your testing strategy and secure additional staff and financial resources. Engaging with local public health authorities is particularly important to ensure you are complying with any local or state laws and requirements.

While engagement with these stakeholders will be different for every school, it is critical that you engage them early and often in the design phase. As a district leader in Louisville, Kentucky reflected, “working with community partners who are sensitive to the needs of our families and staff is critical. It is important to establish a welcoming environment if someone would like to be tested.”



### EXAMPLES IN ACTION

According to the [Mathematica report](#), and what has been shared with the Foundation, the logistical and regulatory requirements for conducting point-of-care antigen testing in schools are complex and are often beyond what school officials are accustomed to dealing with. The team at Friendship Public Charter School in Washington, D.C. worked with CORE, a nonprofit that specializes in disaster relief and has experience standing up community-based testing sites. The CORE team helped the Washington, D.C. team develop a testing program with support from the Office of the State Superintendent and D Health to ensure that the program adhered to regulatory requirements.

In Los Angeles, California, the Office of Los Angeles Mayor Eric Garcetti, the University of Southern California, and the Los Angeles County Department of Public Health collaborated to [interview and conduct focus groups](#) with families, teachers and school administrators to identify the most feasible and acceptable testing protocol.

**TABLE 2 Potential Partners and Suggested Roles**

**Table 2** outlines suggested roles that local public health, government, or mental health officials could play as members of or advisors to the testing task force.

ROLE	RESPONSIBILITIES
<b>Local Health Department Representative</b>	<p>Ensures that the testing strategies align with local, state, and federal health and safety guidelines</p> <hr/> <p>Assists in navigating if tests need to be ordered by a prescribing physician</p> <hr/> <p>Advises on PPE needs and state reporting requirements</p> <hr/> <p>Advises on core indicators that inform school operations (e.g., percentage change in new cases, hospital bed capacity, community spread rate,) and what conditions in the school and broader community might lead to a potential school closure</p> <hr/> <p>Coordinates with school to monitor positive cases in the school, and if and/or when to close areas or schools in the event of an outbreak</p>
<b>Local/State Government Representative</b>	<p>Ensures that school policies follow recommendations of local/state directives and are consistent with federal, state and local laws, including Family Education Rights and Privacy Act (FERPA)</p> <hr/> <p>Coordinates with the school to monitor school positive cases, and if and/or when to close areas or schools in the event of an outbreak</p> <hr/> <p>Assists in school application for CARES Act or other federal or state funding to support Covid-19 mitigation strategies in K-12 schools</p>
<b>Community Mental Health Professionals</b>	<p>Consults on childhood and adolescent impacts of a school closure and reopening</p> <hr/> <p>Ensures that reopening strategies, including testing, are trauma-informed and promote the physical, social and emotional well-being of students</p> <hr/> <p>Ensures that the school community has access to resources that can support social and emotional wellness. One school <a href="#">created a page</a> on their website dedicated to supporting emotional and social wellbeing. Find more resources on taking a trauma-informed approach <a href="#">here</a>.</p>



### 1.3 Establish task force governance strategy

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1. **Agree upon a meeting schedule**, ideally weekly (in part, to consistently measure new data against the key performance indicators)
2. **Determine how information will flow to members** (e.g., email), who will share the information with whom, and how frequently
3. **Decide the role of each stakeholder** at each step of the testing program design
4. **Identify final decision makers**
5. **Agree upon a primary repository in which to store all data**, specifically the case and close contact list, in compliance with relevant regulations, and determine who will maintain the master copy (recommended to be the School Covid-19 Coordinator)

### 1.4 Secure financial support

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Financial and personnel resources will influence which testing strategy you pursue. While insurance does pay for clinical diagnostic testing, in most cases, insurance is not currently required to cover screening or surveillance testing of asymptomatic individuals. Therefore, school systems may require significant assistance from other institutional partners. To date, the most common strategies that school districts use to pay for comprehensive testing programs include the following:



1. **Counties or other entities conduct all testing on behalf of the school district**, meaning that the district itself doesn't purchase tests or manage the testing process in any way



2. **State or federal entities pay directly for tests** and distribute those tests to districts



3. **Districts work with their Local Education Agency (LEA)** to use CARES Act or other federal funding to purchase tests



4. **Tap into existing district financial resources** under the assumption that money will be recouped through subsequent CARES Act or state funding



5. **Use existing budget funds directly**



6. **Obtain support from philanthropic partners or other third parties** to help subsidize or eliminate costs

While an exact budget isn't required, a ballpark estimate of what funding might be available may help inform the amount of testing that can be offered.

Some districts have overcome funding challenges through innovative partnerships, close coordination with local health entities, and/or strong fiscal management. Of note, the Biden administration has proposed funding for testing in schools; as of press time of this document, further details are not yet available.

After you have identified members of your testing task force and partners, and considered options for financing it, time to design your testing program.

Key steps include conducting an initial risk assessment, defining objectives and metrics for the program, and determining a testing strategy (including the type of test, sample collection method, and the frequency of testing).

# 2

## Design Testing Program

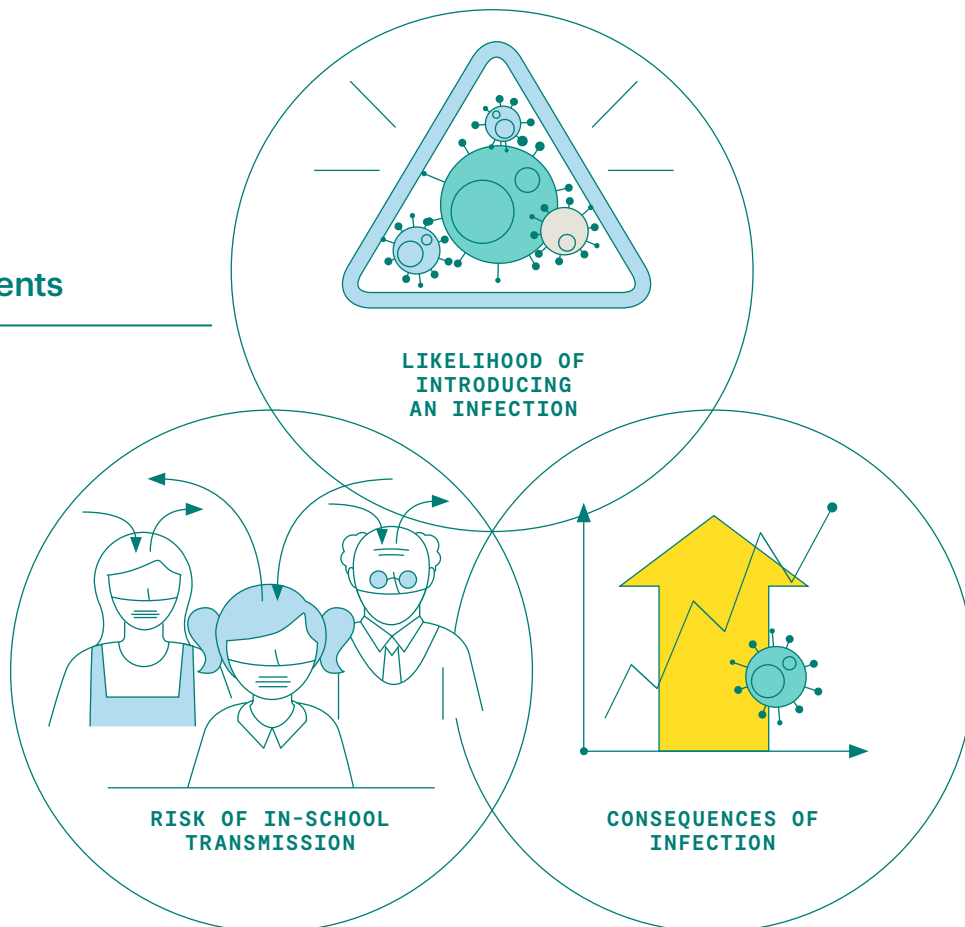
### 2.1 Assess risk of introduction of infection to and transmission within schools

As a first step to designing a testing program, you will need to conduct a rigorous risk assessment. The following information on this topic has been adapted from the Foundation’s [Risk Assessment and Testing Protocols](#) authored by Duke-Margolis Center for Health Policy and Johns Hopkins Center for Health Security. The risk of Covid-19 in schools can be broken into three components:

1. **The likelihood of SARS-CoV-2 being introduced into the school environment** (e.g., an infected individual entering the school premises)
2. **The likelihood that a case spreads within the school environment** (in-school transmission)
3. **The consequences of an outbreak on students, faculty, staff, and families**

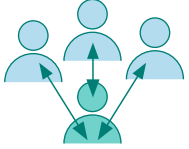
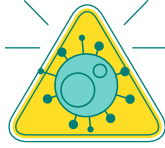
With the tools below, you can assess each of these factors for your own local circumstances. Create an initial testing program strategy based on current local conditions, but plan how the school(s) will adapt the testing strategy as local conditions fluctuate.

FIGURE 1  
Transmission  
Risk Components



**TABLE 3 Infection Introduction Risk Assessment Considerations**

**Table 3** outlines some key considerations when assessing the risk of infection introduction. Links to risk assessment tools are also found in the [Appendix](#).

QUESTION	SUPPORTING INDICATORS
<p><b>What is the current prevalence among the community?</b></p> 	<p>Number of county level cases per 100,000 persons within the last 14 days (should be available on local public health website or at <a href="https://www.covidactnow.org">COVIDActNow.org</a>; daily number of cases may be displayed rather than the 14-day total)</p> <hr/> <p>Percentage of county-level RT-PCR tests that are positive within the last 14 days</p> <hr/> <p>Community testing capacity</p> <hr/> <p>Hospital/Intensive Care Unit bed capacity and utilization percentages</p>
<p><b>What is the level of exposure risk for the school community?</b></p> 	<p>Share of school population residing with essential workers who are at risk of exposure while doing their job (or may hold essential jobs themselves outside of school)</p> <hr/> <p>Percentage of school population with possible exposure during transportation to school (e.g., using public transportation) (Note: school buses will be considered as part of in-school risk)</p> <hr/> <p>Percentage of school population who has traveled outside the local community within the last 14 days</p> <hr/> <p>Age of students and age of staff</p> <hr/> <p>Underlying health status of students and staff</p>

**EXAMPLE IN ACTION**

In Tulsa, Oklahoma, a limited supply of tests meant that demand outweighed supply. In order to optimize their supply of tests, the health department worked closely with the school district to offer testing to schools in areas with the highest risk of introducing an infection to the school. The Tulsa team used zip code level data about hospitalization rates to prioritize school testing sites.

Assessing the risk of an infection being introduced at the school-level is critical, but in some cases, this can be difficult. Some schools draw in students from a wide area with different infections levels. In addition, it is important to understand your student population to identify factors that may mean that risk is higher or lower than the general community. Learn more about assessing risk and the consequences of Covid-19 infections [here](#).

The adherence to risk mitigation practices within the school directly influences the risk of transmission if SARS-CoV-2 is introduced to the school. **The more rigorously the school community adheres to these measures, the lower the risk of within-school transmission.**

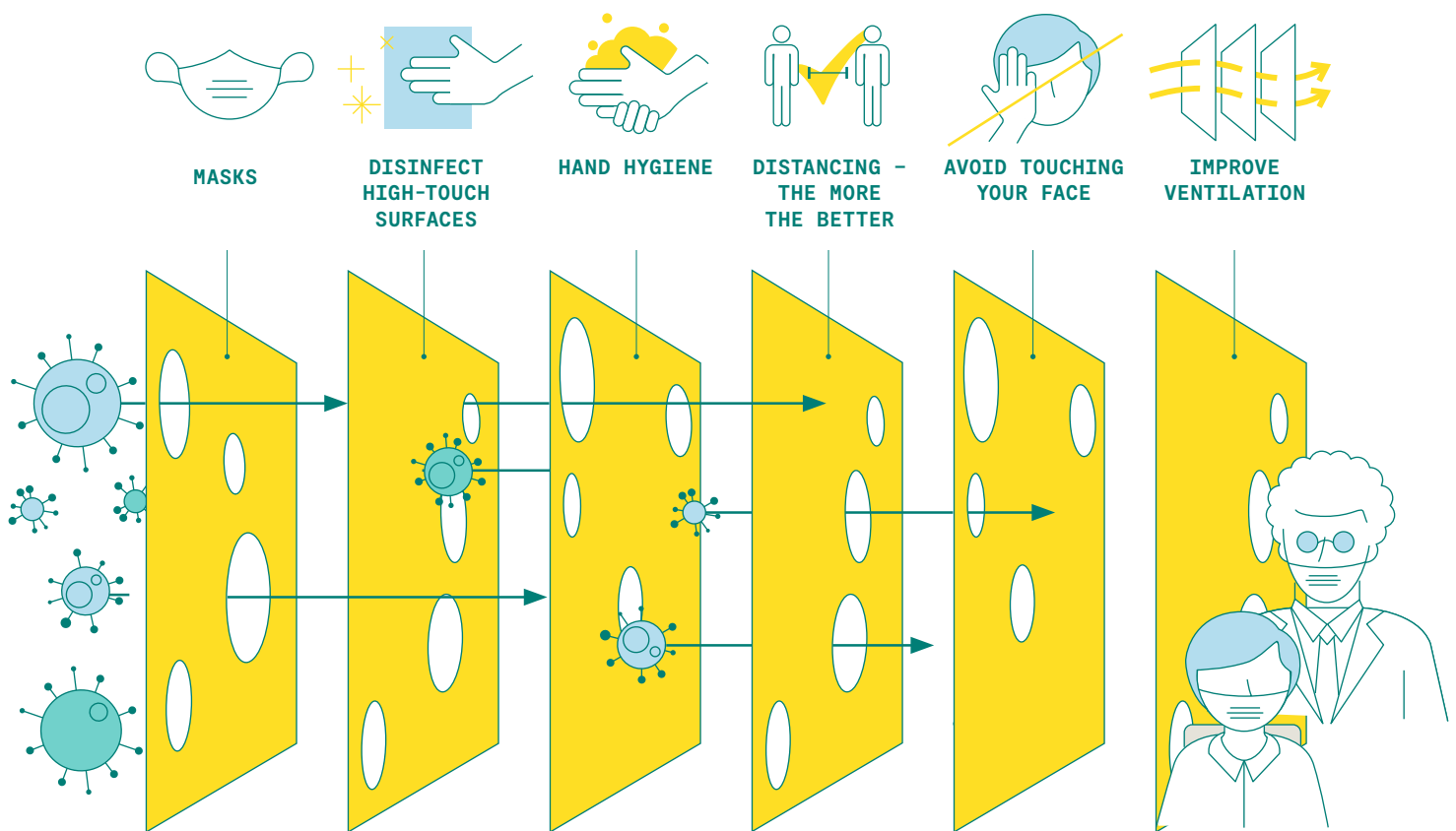
If mitigation measures are not rigorously implemented and followed, the risk that a single infection will cause an outbreak among the school community increases. However, remember that physical measures can fail due to human error and social pressures. Even when done well, no mitigation measure is perfect. But layering imperfect measures allows a stronger, more resilient defense.

**“Testing has to be part of a lot of behavior change asks...to modulate your risks outside of the school.”**

Parent Champion, Hunter College Elementary School, [RAND report](#)

It is also important to assess the consequences of an outbreak. Are families of the student population able to effectively isolate an exposed child to prevent transmission within the household? Do a large percentage of students live with people at higher risk of severe illness or death if infected? You will also need to consider logistical challenges. For example, are there enough substitute teachers to keep schools open if many teachers are infected?

**PRACTICE ALL OF THESE TO REDUCE THE SPREAD OF COVID-19**



**FIGURE 2**  
**Swiss Cheese Layers of Protection**

**Figure 2**, adapted from Ian M. Mackay and James T. Reason, demonstrates that following a combination of mitigation measures decreases the risk of transmission in the school setting.



If you have a significant number of risk factors, you will want to design your testing program to break chains of transmission. This requires testing more frequently, receiving results quickly, and testing as much of the population as possible. If you have fewer factors increasing risk, you may decide to test less often and/or potentially only test a random subset of the population. While this type of testing is not an effective mitigation measure, it does provide assurance to staff and families, as well as important prevalence data to inform decision-making.



## 2.2 Define testing program objectives and metrics

After assessing risk, you should determine key testing objectives. Examples of objectives may be to maintain an in-school positive test rate under a certain threshold, or to isolate individuals who test positive and their in-school close contacts within a certain amount of time after learning of the result. You can develop these objectives with the help of local public health officials to ensure they are appropriate and up to date with the emerging research gathered by state and national experts.

Each of these objectives should be distilled into several metrics that can be used to track testing program progress over time. At a minimum, testing program objectives should include quickly identifying and responding to Covid-19 cases among the school community, increasing confidence in the safety of the learning environment, and running test site operations as efficiently as possible.

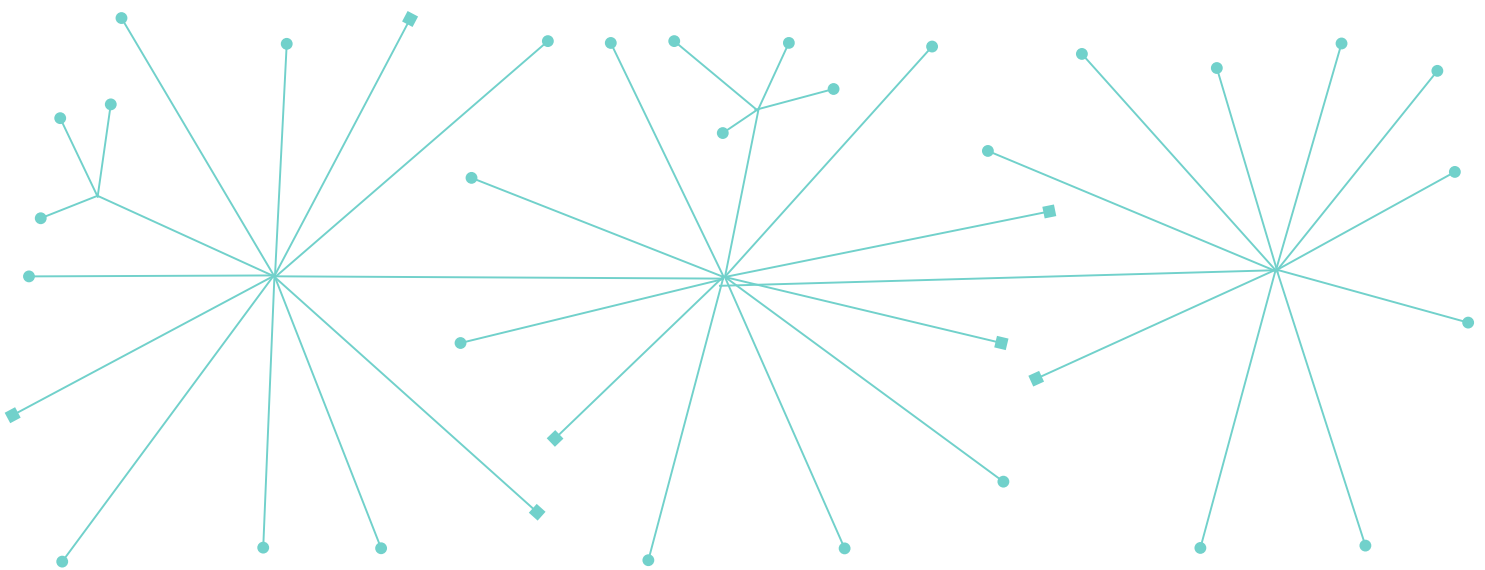
A few sample objectives and associated metrics that can help school leaders track progress toward meeting this goal are listed in **Table 4**.

### EXAMPLE IN ACTION

According to the [RAND report](#), one metric that a leader from La Grange, Illinois 102 district uses is the number of asymptomatic individuals identified through testing. Leaders said, "When we started picking up clinically significant findings, teachers think, 'Wow, if we didn't have this, this kid would be in my class with Covid-19.' That's when people thought, 'this will work.'" As the RAND report summarized, "Identifying asymptomatic Covid-19 cases motivated support for screening testing."

**TABLE 4 Example Testing Program Objectives and Associated Metrics**

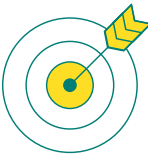

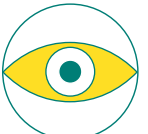
OBJECTIVE	ASSOCIATED METRICS
<b>Maintain a positivity rate among the school community below Z%.</b>	Percent of positive tests among students/population tested to date Percent of positive tests among staff/population tested Percent of asymptomatic positive tests/total positive tests Daily and seven-day average new cases identified Number of outbreaks of five or more cases
<b>Achieve X% confidence rate among school community that the school environment is a safe place for learning.</b>	Percent of parents/guardians reporting that they are confident in the school’s ability to maintain a safe environment Percent of staff reporting they are confident in the school’s ability to maintain a safe environment
<b>Minimize in-school transmission by identifying positive cases and quickly initiating prevention and control measures.</b>	Percent of positive test results from asymptomatic individuals Average test processing time Average time it takes to notify the test-taker of status Average time it takes to notify and isolate (if needed) the close contacts of an infected individual



## 2.3 Determine testing purpose

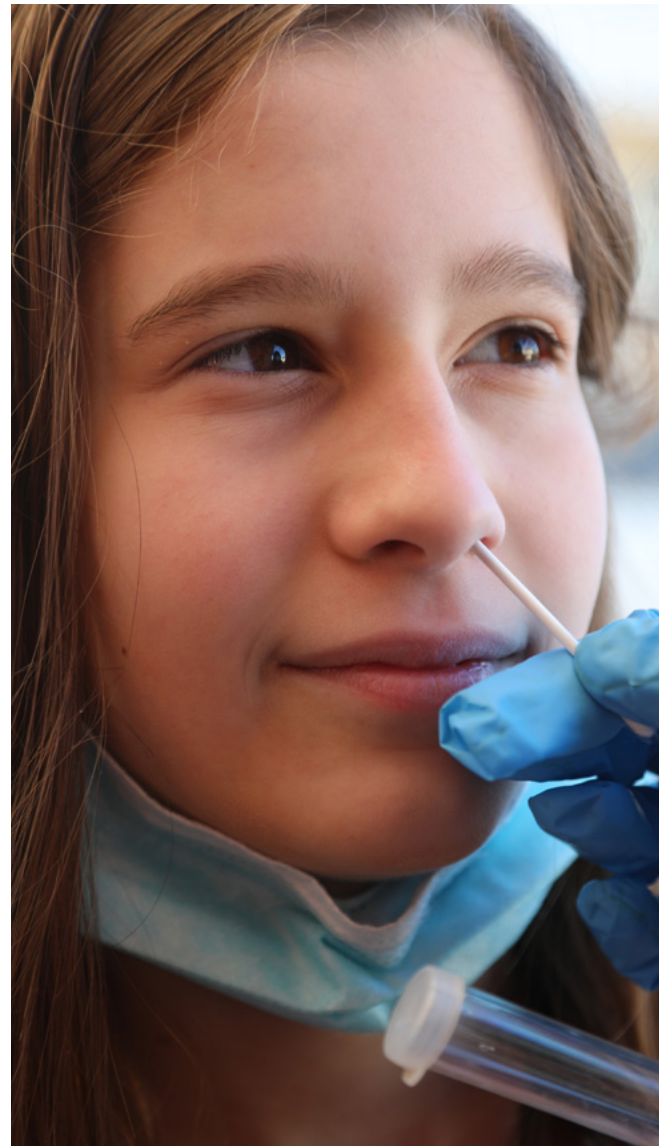
Understand and deploy different testing strategies based on the goals you are trying to achieve and the risk of transmission in schools at the time. There are three purposes for testing: **clinical diagnostic testing**, **screening testing**, and **surveillance testing**. **Table 5** outlines the key distinctions and purposes of each.

**TABLE 5 Testing Strategies**

OBJECTIVE	DESCRIPTION	PRIORITY CHARACTERISTICS	HOW TO DEPLOY
<b>Clinical Diagnostic</b> 	Diagnosing symptomatic individuals or close contacts of those infected for individual clinical decision-making.	Highly accurate and timely results for appropriate clinical treatment (if required) and effective isolation and contact tracing.	<p><b>Circumstances:</b> If an individual presents with symptoms, or has been in close contact of someone who has received a positive test result.</p> <p><b>Timeframe:</b> As soon as possible after symptom development or five to seven days after close contact exposure.</p>
<b>Screening</b> 	Routine testing of individuals without symptoms or any reason to suspect exposure. The objective is to reduce transmission by identifying potentially infected individuals faster to protect public health.	For regular routine screening, frequency of retesting and time to results is more important than highly accurate tests; confirmatory tests may be needed for individual clinical decision-making.	<p><b>Circumstances:</b> In a high to moderate risk setting based on risk assessment.</p> <p><b>Frequency:</b> At least once weekly testing with rapid turn-around of results for the entire population (some percentage of the population may not opt-in to testing, which will reduce the effectiveness of this method to break chains of transmission).</p>
<b>Determining Prevalence/ Surveillance</b> 	Understanding prevalence in a community to inform workplace, local, or regional policies; individual results are not returned.	Frequency and time to results should be appropriate to allow timely decision-making and course adjustment.	<p><b>Circumstances:</b> In a moderate to low community prevalence.</p> <p><b>Frequency:</b> Once weekly testing or less of a population or a sufficient sample of the population; sample size should be determined based on risk assessment and testing resources in partnership with local health officials.</p>

The foundation of your program should always be to ensure that symptomatic individuals and the close contacts of positive cases can access testing (whether on site at school or through referrals to a community testing resource). It is not always possible or necessary for diagnostic testing programs to be operated by schools. At a minimum, school leadership should confirm that diagnostic testing is available and accessible in the community and provide information to school community members for how and when to access it. If there is no accessible diagnostic testing in the community, consider standing up a diagnostic testing strategy prior to developing a screening or surveillance strategy. **The rest of this playbook will primarily discuss on-site routine testing for screening and surveillance.**

Your testing purpose may change as your local risk assessment changes and early test results give more information about in-school versus community prevalence and the likelihood of transmission. For example, you may start testing to better understand prevalence, but, as testing continues, you see that in-school prevalence is increasing faster than the general community. Because of concerns, this may mean that current mitigation measures are not fully preventing transmission, so you could decide to start testing more frequently to break chains of transmission. Alternately, perhaps you start with a screening program, but as community levels decrease, and in-school positives are very low, you may decide to start testing less often. The testing task force should meet regularly to update the testing strategy as conditions change.



### EXAMPLE IN ACTION

As detailed in the [Mathematica report](#) and information shared with the Foundation, in New Orleans, Louisiana, the team ensured that multiple options existed, including priority access to rapid PCR testing at local hospitals for students and staff, and trained school nurses to use rapid antigen tests to diagnose symptomatic individuals on site if needed. **The availability of rapid tests on-site meant that potential outbreaks could be stopped sooner.** It also meant that parents/guardians who could not access hospital facilities would not need to travel to another testing site to get a diagnostic test.

## 2.4 Select test types and collection methods

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Once you have completed the risk assessment and determined the purpose of your testing program, you need to make decisions about the tests you will use, the sample collection method, and the processing procedures that will impact the operation's supplies, staffing, vendors, and timeline. The critical question is what type of test is going to be most effective and feasible in your specific K-12 school's setting.

### 2.4.1 Choose your test type

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Covid-19 tests fall into two major categories: tests that look for **active infection** and tests that look for **past infection**. There are two categories of tests that look for active infection: **molecular tests**, which look for the virus's genetic material, and **antigen tests**, which look for specific proteins on the surface of the virus. PCR tests are the most common molecular test, although other types of tests, such as LAMP (Loop-Mediated Isothermal Amplification Process) and NGS (Next Generation Sequencing), also detect viral genetic material to diagnose active infection.

**Figure 3**, from a Duke-Margolis primer about Covid-19 testing, shows the different Covid-19 test types, descriptions, and illustrations.

Serology tests analyze blood to look for the **antibodies** a person has produced to fight a past SARS-CoV-2 infection. However, as these tests are not designed to find active infections, **antibody tests are not recommended in the surveillance, screening, or diagnostic testing in K-12 schools.**

PCR tests analyzed in clinical laboratories are considered the current "gold standard" for Covid-19 testing. These are generally processed at an off-site lab and typically take 24 to 48 hours (or longer) to get results. Antigen tests are generally less sensitive (may occasionally miss an infection at the pre-symptomatic phase) but can often be read on-site and give results in 15 to 30 minutes, and generally cost less.

When looking at the performance of a test, you want to know the sensitivity of the test, which is the likelihood an infected individual will be correctly identified, and the specificity of test, which is the likelihood that an uninfected individual will be correctly identified. While all testing companies will be able to show clinical results on the performance of their test, you should check if there is data on the sensitivity and specificity in real-world use. For clinical diagnosis, it is important to use the most sensitive and specific test available. However, for screening, the frequency of testing and rapid results can be more important than high sensitivity, since if a test misses an individual the first time, they will be tested again in a couple days. It is important to note however, that PCR tests may show a positive result after peak infection period as it is detecting virus remnants and the person is no longer infectious.

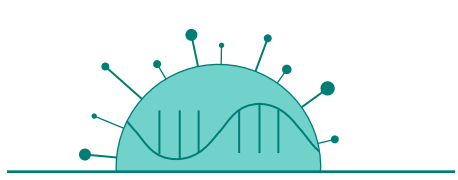
When using tests that are not 100% specific in a routine screening or surveillance program (meaning that the individuals being tested are asymptomatic and have no known exposure to an infected individual), the CDC recommends confirmatory testing (having a second PCR test) to confirm the individual's infection status (see the CDC decision tool for recommendations on interpreting results and confirmatory testing). On-site or local access to confirmatory testing is critical in communities that rely on the school as a single source of testing.

#### EXAMPLE IN ACTION

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As they shared with The Rockefeller Foundation, by offering the testing at learning hubs, Jefferson County Public Schools in Louisville removed barriers some families faced in accessing confirmatory PCR testing.

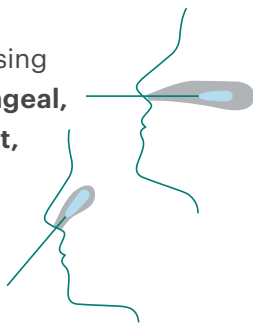
FIGURE 3 Covid-19 Test Types



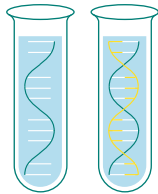
**MOLECULAR TEST**

**Detects viral RNA and positive results indicate active infection**

1. Obtain specimen using **nasopharyngeal, nasal, throat, or saliva sample.**



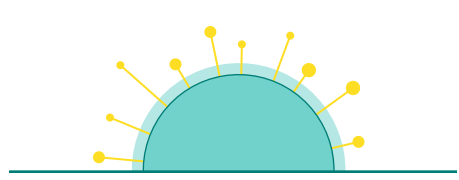
2. Extract RNA from sample and convert to DNA.



3. Using sample analyzer, amplify DNA and measure the number of viral copies present.



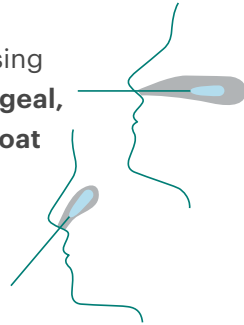
4. Rapid analyzers provide results of "Positive" or "Negative" within 30 to 60 minutes. **PCR tests** provide results in several hours.



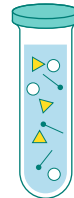
**ANTIGEN TEST**

**Detects viral proteins and positive results indicate active infection**

1. Obtain specimen using **nasopharyngeal, nasal, or throat swab.**



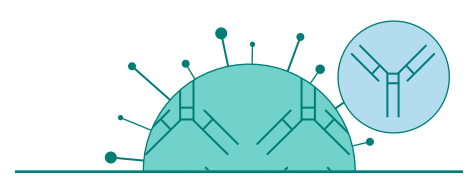
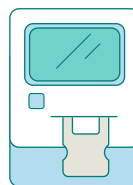
2. Break virus into pieces.



3. Sample is added to cartridge, which contains lab-made antibodies that detect viral proteins. Once processed, the cartridge is put in an analyzer.



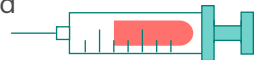
4. The analyzer "reads" the cartridge as either a positive or negative result. **Antigen tests** provide results within 15 minutes.



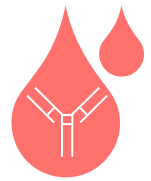
**SEROLOGY TEST**

**Detects antibodies to SARS-CoV-2 in blood; positive results indicate previous infection**

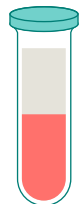
1. Obtain blood sample.



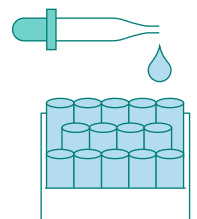
Blood from previously infected patients contains antibodies to the virus



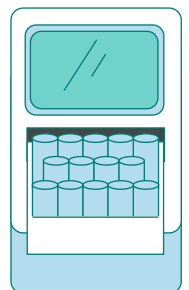
2. Blood serum, or fluid that contains antibodies, is separated from other blood cells.



3. Serum is added to test device – either a cartridge or a test plate.



4. Rapid, cartridge-based tests provide results within an hour. **Laboratory-based tests** provide results in several hours.



## 2.4.2 Review collection methods

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In addition to difference in testing type (molecular vs. antigen), Covid-19 tests will vary in the way the specimen is collected. Molecular test specimens can be collected using a **nasopharyngeal swab**, anterior **nasal swab** (less invasive swab of the nostril), **throat swab**, or **saliva sample**. Anterior nasal swabs and saliva are currently the most common. Some vendors offer test kits that let students and staff collect samples at home, therefore decreasing the number of staff required for the testing operations. Antigen test specimens are similarly collected using an anterior **nasal swab or saliva** by a trained test operator or self-administered with a trained test observer.

## 2.4.3 Individual vs. Pooled testing

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Pooled testing is one option for molecular testing that may reduce administrative burden and lower costs for schools. In this method, schools still collect samples from individual people, but the lab will then combine all or part of the samples together into a batch to be tested together (rather than testing samples individually). Using this approach, labs can process several tests in the amount of time it would take for one individual sample. If a tested pool is negative, you can assume that all samples in the pool are negative. If a tested pool is positive or indeterminate, samples from all individuals in the pool would need to be retested to isolate the positive(s), a process called “deconvolution.” *Pooled testing may dilute the samples and have a lower sensitivity than individual molecular testing.* In higher prevalence settings it is recommended to use smaller pool sizes. If pooled testing is utilized, it is important to be thoughtful in choosing the number and mix of samples within each pool. See [Appendix](#) for more information on pooling.

Pooling is a good fit where there are natural cohorts (e.g. homeroom classes in grades K-5 or athletic teams) because those groups are frequently considered close contacts and would sometimes be tested and quarantined in any case in the event of a positive case.

## 2.4.4 Consider test EUA status/label

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Under the public health emergency, Covid-19 tests are permitted to be marketed under Emergency Use Authorizations (EUAs), rather than through the FDA’s normal processes. The FDA keeps an [ongoing tracker](#) of the tests with an EUA. This tracker includes information on whether a prescription or a CLIA certification (waiver, medium-complexity lab, high-complexity lab; see [Obtain a CLIA Waiver](#) section) is required, and links to information about the tests and their use. Arizona State University’s [Testing Commons](#) database lists detailed information about test manufacturers, modality, and diagnostic target.

It’s important to note that while many tests are not authorized for use in children or people who are asymptomatic, the CDC and the FDA do allow practitioners to consider off-label use under certain cases. The [CDC](#) recommends the use of viral tests (molecular or antigen) “to diagnose acute infection of both symptomatic and asymptomatic individuals, to guide contact tracing, treatment options, and isolation requirements.” Additionally, the [Director](#) of the Office of In Vitro Diagnostics and Radiological Health at the FDA’s Center for Devices and Radiological Health asserted in December 2020 that the agency is allowing antigen and molecular diagnostic tests to be used off-label in testing asymptomatic patients, as directed by a prescriber for prescription-use tests.

To maximize for test accuracy, it’s generally recommended to use highly sensitive tests when screening asymptomatic individuals whenever possible. However, the [FDA states](#) that “if highly sensitive tests are not feasible, or if turnaround times are prolonged, health care providers may consider use of less sensitive point-of-care tests, even if they are not specifically authorized for this indication.”

## 2.4.5 Decide on a test type







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The best tests are the ones school districts can reliably access and that provide highly accurate results with a very quick turnaround time.

**Table 6** summarizes some of the key factors to consider when determining the appropriate test type and processing method for screening testing in a school setting. These are meant to help guide decision

making, but specific accuracy, resource requirements, and turnaround times will vary based on the test vendor, test frequency, and population size, among other factors.

**TABLE 6 Summary of Test Type Considerations**

FACTOR	TEST TYPE		
	INDIVIDUAL PROCESSING	PCR	ANTIGEN
<b>Sample Type</b> 	Anterior nasal swab, saliva	Anterior nasal swab, saliva	Anterior nasal swab, saliva
<b>Accuracy</b> 	Generally high (but can vary by test*)	Slightly less sensitive than individual PCR for detecting low viral loads, depending upon pool size*	Less capable of detecting low viral loads*
<b>Personnel Needed</b> 	Moderate if administrator collected; fewer if self-collected	Moderate if administrator collected. Fewer if self-collected, but pool deconvolution or matrix testing required for positive results	Moderate if administrator collected. Fewer if self-collected. Additional may be needed to load instruments and read and report results
<b>Cost</b> 	Highest \$25 to \$100+ *** per person (lab fee), plus \$15 to \$20 per person for test administration	Lower \$10 to \$25 per person (lab fee), plus \$15 to \$20 per person for test administration  Deconvolution/reflex tests may have additional costs.	Lower \$5 to \$25 per person (test cost), plus \$15 to \$20 per person for test administration  Some tests require purchase of an instrument.  Confirmatory tests for positive results, if needed, are additional cost.
<b>Turnaround Time</b> 	Generally, 24 to 48 hours**	24 to 48 hours (initial test); possible 24 to 48 additional hours (reflex test)	15 to 30 minutes
<b>Confirmatory Test</b> 	Generally not needed	Deconvolution or reflex testing required for positive pools	Confirmatory test recommended for positive tests

\* Ask to see real-world performance data for the specific test being used

\*\* Turnaround time could be subject to change based upon demand and capacity. Schools should be aware of this and monitor accordingly. Prices vary and will change as the market evolves.

\*\*\* Cost estimates based on input from experts at Health Catalyst



## FIGURE 4 RAND Report: School and District Testing Choices

Figure 4 lists the testing program choices made by selected schools, districts, and states in the [RAND](#) report.

DISTRICTS	OPT-IN OR REQUIRED	WHO IS TESTED	TESTING TYPE (FREQUENCY)	SAMPLE TYPE	WHERE SAMPLE IS COLLECTED	WHERE SAMPLE IS ANALYZED	HOW SAMPLE IS ANALYZED
<b>La Grange 102 (IL)</b>	Opt-in	Both	Screening (Twice weekly)	Saliva	Home or school	Off-site	RT-LAMP
<b>Marshall Community Unit School District (IL)</b>	Opt-in	Both	Diagnostic	Nasal swab	School	On-site	Rapid antigen detection assay
<b>Prairie-Hills School District (IL)</b>	Opt-in	Both	Screening (Intermittent)	Nasal swab	School	On-site	Rapid antigen detection assay
<b>Omaha School District - 3 Pilot Schools (NE)</b>	Required (Staff); Opt-in (Students)	Both	Screening (Twice monthly)	Saliva	School	Off-site	RT-PCR
<b>Westminster School District (CO)</b>	Opt-in	Both	Screening (Twice monthly)	Nasal swab	School, clinic, testing site	Off-site	RT-PCR
<b>Medford Public Schools (MA)</b>	Opt-in	Both	Screening (Weekly)	Nasal swab-pooled	School	Off-site	RT-PCR
<b>San Diego Unified School District (CA)</b>	Opt-in	Both	Screening (Twice monthly)	Nasal swab	School	Off-site	RT-PCR
<b>Wellesley Public Schools (MA)</b>	Opt-in	Both	Screening (Weekly)	Saliva-pooled	School (Staff); Home (Students)	Off-site	RT-PCR

## 2.5 Consider specific groups

An effective testing program will consider the needs of special populations. Special populations may include people with unique roles, ages, or exposure risks. For example, younger students may require assistance with self-collection methods, while older individuals may be able to use these more easily. Special populations at higher risk of exposure (e.g., the school nurse or adults who work with children who cannot reliably mask or social distance) may benefit from more frequent testing.

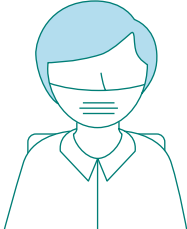



### EXAMPLE IN ACTION

RAND detailed a program in Medford, Massachusetts, where school staff “administer tests on different days of the week to the two cohorts of students attending as part of the district’s hybrid instructional model. High school and middle school students self-swab under supervision of a nurse; however, the nurse assists elementary students with their swabs.”



## FIGURE 5 Testing Group Considerations

Figure 5 illustrates some of the criteria to consider when creating testing groups:

	WHO	VIRUS EXPOSURE RISKS	TESTING CONSIDERATIONS
<b>STUDENTS GRADES K-5</b>  	Individuals primarily age five through 11 years old	<p>More frequent unstructured time may increase exposure in classroom</p> <p>May not remember to keep distance and use masks appropriately</p>	<p>May be less amenable to testing due to fear or discomfort</p> <p>May require assistance if self-administering test</p> <p>Requires parent/guardian consent (may require presence)</p>
<b>STUDENTS GRADES 6-12</b>  	Individuals primarily age 12 through 18 years old	<p>Students more likely to transition among classrooms and cohorts throughout the day</p> <p>According to a CDC study published in October 2020, Covid-19 incidence in adolescents age 12 to 17 approximately twice as likely as children age five to 11</p>	<p>Can independently provide a saliva sample or self-swab, but may still require quality assurance of the sample</p> <p>May require parent/guardian presence during test</p>
<b>TEACHING FACULTY</b>  	Teaching faculty, including teachers who remain with one cohort throughout the day/week, and subject teachers with rotating students	<p>Teachers, especially of younger students, may come into closer contact with students during in-class instruction</p> <p>Teachers of higher grades may be exposed to a larger number of students throughout the day</p>	<p>May be amenable to more frequent testing than children</p>
<b>NON-TEACHING STAFF</b>  	School staff including administration, maintenance, nurses, cafeteria, and grounds, among other functions	Some staff (including maintenance, nurses, and cafeteria staff) may encounter more students than most teaching staff, risking higher exposure	<p>May be amenable to more frequent testing than children</p>

## 2.6 Determine number of participating students and staff

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Ideally, your testing program should include everyone on the school's campus, including students, teachers, administrative staff, cleaning staff, and external vendors. If you are just testing to measure the prevalence of infection or for assurance, you can decide to test either all individuals or only a sample of the population. If you are testing as a mitigation measure to break chains of transmission, you need to test as much of the population as possible for the program to be effective.

If you decide to test every individual (or all who opt into the program if it is not required), monitor the population on campus at any given time. If the school is on a hybrid schedule, for example, individuals will be on campus at different times and this may make tracking test compliance more difficult. Determine the best way to track test compliance prior to launching the testing program in order to enable easier tracking once the program launches. You may be able to use attendance records or campus check-in lists.



### EXAMPLE IN ACTION

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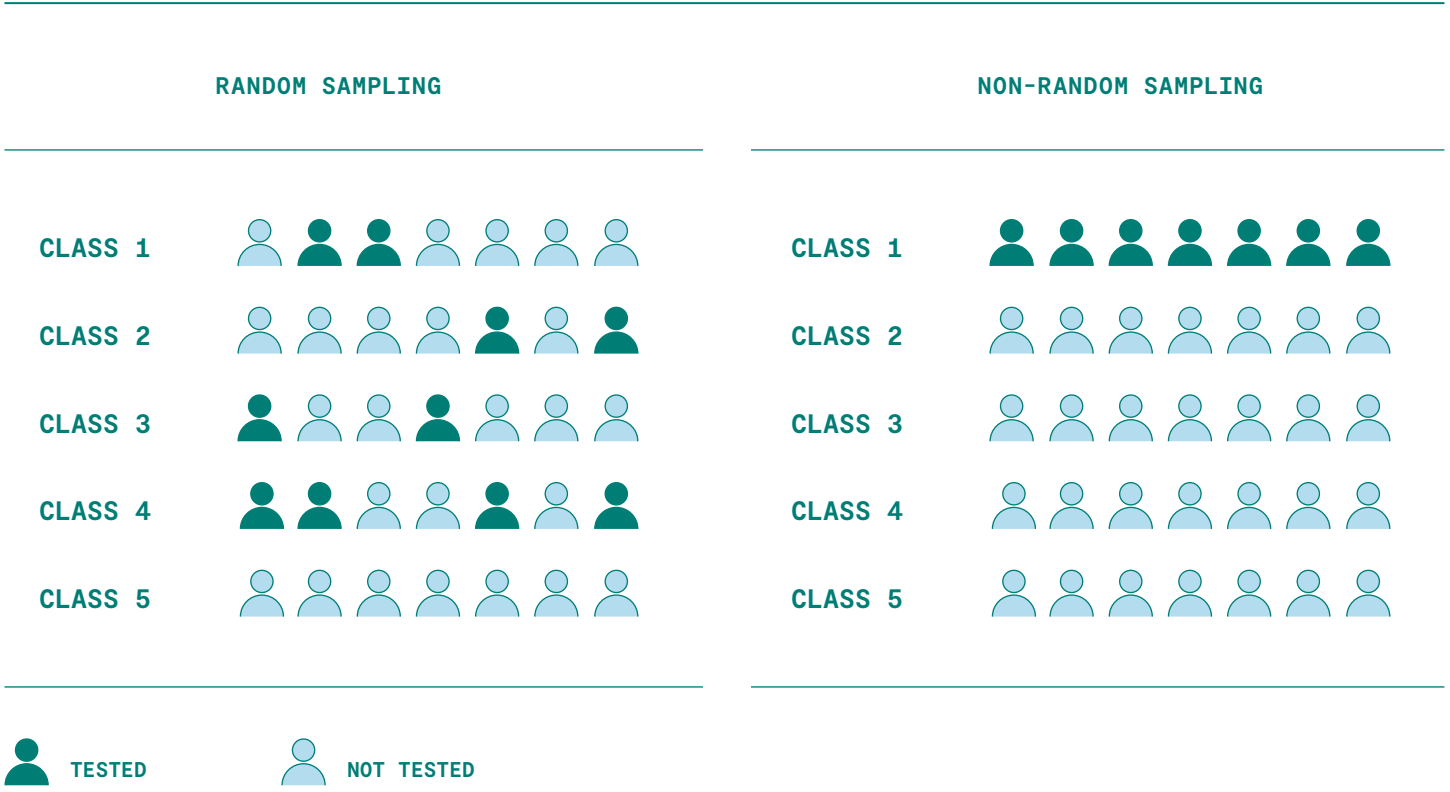
New York City public schools determine sample size based on community prevalence. **20% of the school community is tested monthly in an “orange zone” community; 30% is tested monthly in a “red zone.”**

By testing a sample of the population, you can reduce the resources required throughout the testing program operations. However, only a truly random sample will give you the best results. Testing only adults will not help you understand prevalence within the school because they are not a random sample of the entire school population. If you decide to pursue sample testing, the sample size should depend on the community prevalence at the time and therefore may increase or decrease throughout the lifecycle of the testing program. A statistician may be helpful in determining the appropriate sample size based on local conditions and contexts.

There are two methods of sample testing: **random sampling** and **non-random sampling**. **Figure 6** provides an illustration. Random sampling means every member of the sampled group has an equal chance

of being tested at each testing event. In a school conducting weekly testing of a random 20% sample of the school, an individual may be tested multiple weeks in a row, then not tested for several weeks, but each time, 20% of the school is tested. Sampling is non-random if additional conditions are added, (e.g., testing only adults, testing at least one person in each homeroom, or excluding people who do not opt-in to testing). Non-random sampling may introduce bias into the data, which should be carefully examined. Ensuring you are testing at least one person per classroom or excluding the most recently tested population from the next sample will introduce less bias than testing only teachers. You should also assume that individuals who opt into testing may be more or less likely to be infected than people who opt-out, depending on the reasons for doing so. A good statistician can help adjust for these potential biases.

**FIGURE 6 Random vs Non-random Sampling Approach**



## 2.7 Outline test frequency and schedule

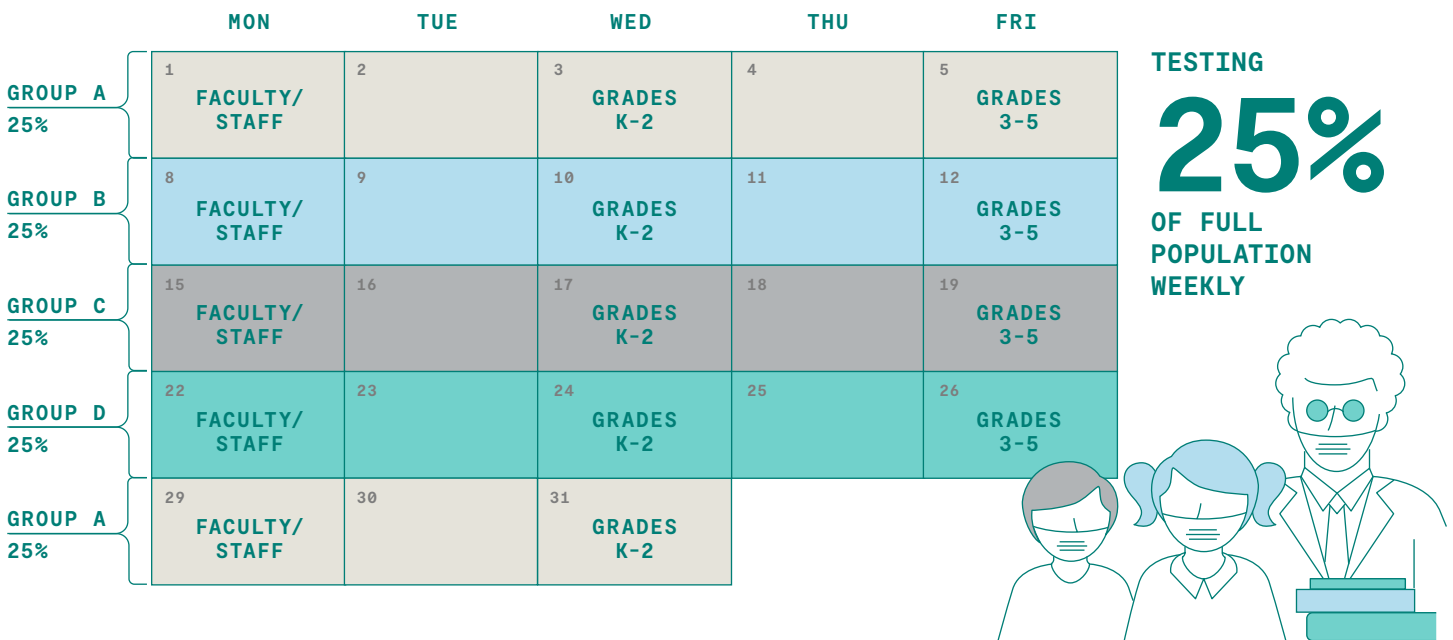
While every school should identify a strategy and frequency that is tailored to their risk level, school, and population, the default testing strategy recommendation for screening programs is to **test all students at least once weekly and all teachers and other staff preferably twice per week** in order to reduce chains of infection. This frequency may vary for schools that have lower risk of transmission, or schools that may be on hybrid learning models. Testing frequency will also be influenced by your budget, human resources, and how open your community is to testing, among other factors. This calculator developed by Massachusetts

Institute of Technology (MIT), National Institutes of Health (NIH), and National Institute of Biomedical Imaging and Bioengineering (NIBIB) shows how the use of masks, contact tracing, and group activities in your school may impact the need for testing.

Once you have decided on the number of participating students and staff and the frequency of testing, you should make a testing schedule to help set expectations with students, families, and staff.

**Figure 7** shows a schedule for a school using a sampling method, in which 25% of faculty/staff and students in grades K-5 is tested every week.

**FIGURE 7** Sample Schedule for K-5 School Testing 25% of Full Population Weekly



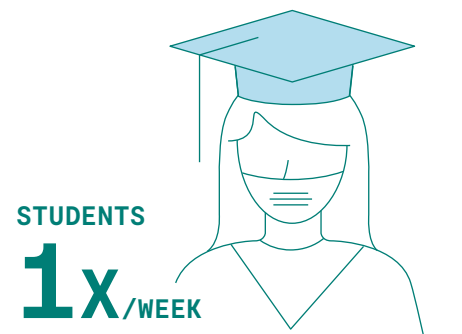
Depending on costs and logistics, you can consider dividing the tested population across several days to reduce the time and resources required for each testing day. Alternatively, testing could occur one day out of every week, especially if you are bringing in external support staff to help conduct the testing. When making this decision, consider human and financial resources, test result turnaround time, available testing space, and school schedules. If implementing a screening program, ensure that the time between tests for each individual remains at the frequency desired. **Figure 8** gives an example of what the test schedule may look like for a school testing faculty/staff twice a week and students once per week.

### EXAMPLE IN ACTION

According to the [Mathematica report](#), the Tulsa team shared that “doing twice weekly testing here would be a dealbreaker. Parents are open to once weekly testing, but many pushed back against twice weekly because they felt like we were using their children as test subjects.”

**FIGURE 8** Sample Schedule for Grade 9-12 School Testing Faculty/Staff Twice Weekly and Students Once Weekly

MON	TUE	WED	THU	FRI
1	FACULTY/ STAFF	STUDENTS	FACULTY/ STAFF	5
8	FACULTY/ STAFF	STUDENTS	FACULTY/ STAFF	12
15	FACULTY/ STAFF	STUDENTS	FACULTY/ STAFF	19
22	FACULTY/ STAFF	STUDENTS	FACULTY/ STAFF	26
29	FACULTY/ STAFF	STUDENTS		



In addition to determining the testing cadence, you should also consider the ideal time of day to conduct testing. For the youngest children, parents may wish to be present for the testing process. In this case, it would be most convenient to conduct testing during drop-off or pick-up times. Alternatively, staggering test times throughout a day to avoid overcrowding of a testing site can lessen the burden on a test site at a specific time. In addition, if you are using rapid antigen tests, test schedules must consider not only the time required to move individuals through the testing line, but also the time it takes to process the tests and read results.

**Figure 9** shows an example testing schedule for a school in hybrid learning mode.



### EXAMPLE IN ACTION

As they shared with Mathematica and the Foundation, in Washington, D.C., Friendship Public Charter School leaders found that offering testing in shorter increments but more frequently throughout the week helped increase participation for students and families by providing more day and time options for busy families.

**FIGURE 9** Sample Schedule for Grade 6-8 School Testing Hybrid Cohorts and Faculty/Staff Weekly

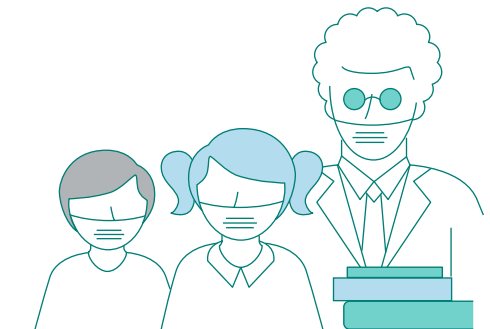
MON	TUE	WED	THU	FRI
1 HYBRID A	2 FACULTY/STAFF	3	4 HYBRID B	5
8 HYBRID A	9 FACULTY/STAFF	10	11 HYBRID B	12
15 HYBRID A	16 FACULTY/STAFF	17	18 HYBRID B	19
22 HYBRID A	23 FACULTY/STAFF	24	25 HYBRID B	26
29 HYBRID A	30 FACULTY/STAFF	31		

↓
↓
↓

HYBRID A IN-PERSON      NO STUDENTS IN-PERSON      HYBRID B IN-PERSON

TESTING  
HYBRID COHORTS  
AND  
FACULTY/STAFF

# WEEKLY





# 3

## Prepare to Launch the Testing Program

Once you decide on your goals, testing type, and testing strategy, you can begin preparing and acquiring the many things you will need to carry out the program – both physical (e.g., tests, PPE, people) and non-physical (e.g., consent, communication plans, etc.).

### EXAMPLES IN ACTION

As recorded in the [Mathematica report](#), in Rhode Island, gathering consent in a short period of time was a challenge. "Our final decision was to use permission slips to collect consent, but that added a barrier to testing. Uptake of the consent forms was not great, and testing needs to be as low-barrier as possible."

Schools across the country such as those in [State of Maine](#), [Cincinnati Public Schools Collaboration](#), [Tacoma-Pierce County](#) and [Palm Beach County](#) have drafted consent forms for parents/guardians to complete.

## 3.1 Collect consent for testing

You should only conduct school-based testing with the consent of the individual and parent/guardian (for minors). For students, you will need to distribute and collect a general parental/guardian consent form with specific fields, including, but not limited to, the following:



### PURPOSE OF TESTING



### AUTHORIZATION



### COVID-19 TESTING INFORMATION



### STUDENT PRIVACY STATEMENT



### ACKNOWLEDGEMENT

This form should be customized for each school and the specific legal requirements of each district. Sample consent forms can be found in the Examples in action box to the left. **School leaders should consult with legal counsel to review the consent forms before distributing to parents/guardians.** Be sure to include parent's authorization to release testing data in the consent. You'll need this data to track transmission in your school.

Be prepared to work with the vendors administering Covid-19 tests to collect consent. Whenever possible, consent forms should be combined to require parent/guardian action only one time.

To make consent as easy as possible, schools and school districts can distribute both online and paper versions of consent forms, and where possible, incorporate them into existing technology systems. Make sure your consent forms are written in plain, understandable language. Forms should be translated into as many languages necessary to support the school community and be on official letterhead.

### 3.2 Promote participation and mitigate barriers

---

Having a high percentage of your community participate in testing is a critical factor in a school's ability to break the chains of transmission through screening or to gain the most accurate determination of school prevalence if doing surveillance testing. When designing your communication plans, communicate clearly why you are testing and the benefits that you believe it will have, including reducing asymptomatic spread and keeping the community safe (See [Define Communications Plan](#) section for more details). Equally important, identify and anticipate the barriers that students, families, and staff might face to accessing and participating in the testing program, and identify mitigation strategies. Some anticipated barriers and potential mitigation strategies are outlined in **Table 7**.

Making testing a requirement is one way to increase participation, but comes with important considerations and is not appropriate in all situations. According to guidance from the CDC, the Equal Employment Opportunity Commission (EEOC) [permits](#) you to require Covid-19 testing for employees. Depending on local and state regulations, you may be allowed to require students to be tested. However, in most public schools, requiring participation in a screening program could be an illegal barrier to education, so you should consult legal counsel and work with local officials to determine what, if any, student requirements are allowable and appropriate for your school's circumstances.



#### EXAMPLES IN ACTION

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In some schools/districts interviewed by RAND, symptomatic individuals or a close contact of a confirmed case who refused to be tested were asked not to participate in in-person learning for a 10-day period. New York City public schools require consent for [in-school testing](#) for students attending in-person. They allow exemptions for students with certain disabilities or medical conditions. It is important to check with your legal counsel because a restriction to in-person learning may not be allowable.

---

In Illinois, one district incentivized staff to participate in testing with a policy that meant they did not have to use their benefit time (i.e., sick time) for a COVID-19 related illness as long as they were tested through the district's BinaxNOW program.

---

The Louisville team shared with The Rockefeller Foundation that wraparound supports are available through Louisville Metro Government to ensure that families who attend community learning hubs and who needed to isolate and quarantine have access to much needed services.

**TABLE 7 Anticipated Barriers and Potential Mitigation Strategies**

**ANTICIPATED BARRIER TO ACCESS AND PARTICIPATION**

**POTENTIAL MITIGATION STRATEGIES**

**Missing work**

Parents/guardians may need to miss work if their child tests positive for Covid-19. This can be particularly hard for those that cannot work remotely. This may limit their willingness to consent to their child being tested in schools.

In messaging to parents/guardians, include information and resources related to the [Families First Coronavirus Response Act](#), which can help parents/guardians secure up to an additional 10 weeks of paid expanded family and medical leave. This is for employees in certain circumstances who are unable to work due to care for a child whose school is unavailable because of Covid-19. Required provision of this leave ended on December 31, 2020, but the Biden administration has proposed extending it, and employers can still receive tax credits for voluntarily providing this type of leave through March 31, 2021.

**Quarantining**

Older students and some staff avoid testing because they do not want to face the possibility of quarantining.

Engage trusted leaders to message about the risks of asymptomatic infection, the need for communities to keep each other safe.

Require testing, where possible.

Ensure rapid options for deconvoluting positive pools/reflex testing.

**Data Privacy**

Students, families, and staff might have concerns about health data privacy and sharing information with the school and/or classmates.

Clearly outline and communicate the steps that the school or school district and the testing vendors will follow to maintain confidentiality of all student and staff health data.

**Stigma**

Students, families, and staff might be concerned about being the “cause” of a school closure or classroom quarantine if they participate in testing and receive a positive result.

Proactively and regularly communicate the goals of the testing program, emphasizing the desire to catch positive cases early before they become a source of transmission in schools.

Assure the school community of the steps that will be taken to maintain confidentiality in the event of a positive test result.

Emphasize that a classroom quarantine is not a “failure,” but a proactive step to mitigate risk and reduce transmission, in accordance with local and national public health guidance.

### **Technology Literacy**

Parents/guardians without as much technology experience or who do not have stable internet access might struggle to use digital tools to provide consent, participate in symptom or test result reporting, or track digital communications about Covid-19 status in the school.

Provide digital and non-digital solutions for any communications and actions required of parents/guardians. These might include phone calls to parents/guardians to discuss required actions or creating paper versions of consent forms for pick up from the school building.

---

Provide a school point of contact for parents/guardians who require extra support using digital tools.

---

Reduce the burden on parents/guardians by identifying data management tools that require minimal manual data input from families.

---

Bundle consent forms as often as possible to reduce the burden of obtaining multiple forms of consent in a short period of time.

---

### **Discomfort**

Parents/guardians and students might avoid testing because of invasive procedures depicted on media.

Using test vendor guidance, communicate the steps included in test procedures in advance of testing program launch in order to demystify the process and assure students and families of the safe, non-invasive procedure.

---

Use testimonials from a variety of students or make promotional videos demonstrating what to expect from the testing experience to mitigate concerns.

---

### **Available Leave for Staff**

Teachers and staff may be concerned about having to use up leave to accommodate a quarantine period.

Clearly outline the available benefits and leave options for teachers who test positive for Covid-19 or are required to quarantine due to a close contact with a positive test result, especially for contacts that occur in-school. Refer to first box above if they are also eligible for Covid-19 leave.

### 3.3 Engage testing vendors

---

Some schools will be provided test kits from federal or local government supplies and others will need to contract directly with testing vendors or laboratories. Even if provided test kits, some schools may contract with a vendor to provide trained staff and handle other logistical functions.

Testing vendors offer a mix of services, ranging from solely processing test results to providing staff to collect samples at test sites and doing data analysis. These services can include:



#### TEST PRESCRIPTION

some tests must be officially ordered by a physician or other medical professional, and a vendor can provide this order



#### TEST ADMINISTRATION

some vendors will provide trained professionals to collect samples or provide other staffing at a testing event (e.g., check-in). If the vendor does not offer this, the school will have to staff these functions



#### SUPPLIES PROVISION

(e.g., consumables, PPE, waste collection)



#### WASTE DISPOSAL



#### TEST ANALYSIS



#### DATA MANAGEMENT AND RESULTS REPORTING



#### INSURANCE MANAGEMENT/BILLING

(in situations where insurance can be billed for the cost of tests)

You may find one vendor who can do most of these services for you, or you may engage different vendors for different functions. It is important to have a clear idea of what tasks will be performed by the school and/or task force, and what tasks you want one or more vendors to perform.

In addition to understanding what specific services a vendor can offer, you should also consider these factors:



### **COST**

The vendor's charges to you, exactly what is included or not and how they are billed

Any costs that the school incurs separate from vendor(s) services



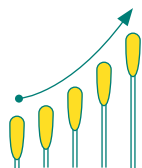
### **TEST CHOICE**

Selection of tests they offer including samples needed for each test and if the test performance fits with your testing program.



### **TEST PROCESS**

Turnaround time – specifically results to test takers, or the time it takes from when the sample is collected to when the result is shared with the school (should be 48 hours or less and ideally, less than 24 hours)



### **TEST VOLUME**

The vendor's capacity to meet the school's testing volume needs today and in the future



### **DATA**

Data management: Clear understanding of what data is kept, for how long, and by whom

Designate a point-of-contact on the testing program task force that will communicate with vendors.

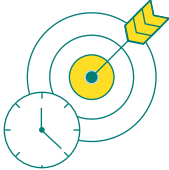

**How to find vendors:** Local health officials are a good starting point for information on the testing vendor landscape. School associations can also help in this search process. For example, the [California Association of Independent Schools](#) invites member school leaders to share testing vendor information and resources. Arizona State University maintains [Covid-19 Testing Commons](#) – a one-stop-shop of information about Covid-19 tests – which can be used to source information about which tests are on the market and authorized. Some schools have also had success partnering with local hospitals and medical centers for testing needs.

**Table 8** has a list of key questions that you can consider asking vendors when you interview them. Since different vendors offer different services, not all of these will apply in every situation; you can choose those which are appropriate for your needs. Please note that while you may need or choose to have different vendors for different parts of the value chain, it will be much easier to manage one vendor per type of service. For instance – one vendor for data services, one vendor for test services, etc.

### **EXAMPLE IN ACTION**

In the San Diego Unified School District's pilot testing program, UC San Diego Health handles all the logistics of setting up a testing site, provides the staff and equipment needed to administer tests, and analyzes the results. As a district leader described it to [RAND](#), "UC San Diego Health swoops in to administer the tests."

**TABLE 8 Questions for Testing Vendors**

CHARACTERISTIC	KEY QUESTIONS	SUPPLEMENTAL QUESTIONS
<p><b>Test Quality and Turnaround Time</b></p> 	<p>What type of Covid-19 test is used?</p> <hr/> <p>Is your test EUA authorized by the US FDA? What is the wording on the label?</p> <hr/> <p>What is the sensitivity and specificity of the test?</p> <hr/> <p>How long does it take for test results to be available and communicated?</p> <hr/> <p>For PCR: will samples be stored? What are the storage requirements/shelf life?</p> <hr/> <p>How does shipping work for supplies and active specimens?</p> <hr/> <p>Do you have other K-12 school customers? If yes - How many?</p>	<p>What does the end-to-end process look like (from ordering tests to communicating results)?</p> <hr/> <p>Is there a certain shipping service that needs to be used? Are return packaging supplies provided?</p> <hr/> <p>Is there data around the limit of detection of the tests used?</p> <hr/> <p>Have you published on your tests or testing protocols?</p>
<p><b>Data Management</b></p> 	<p>How do you report results to the school and to the parents/guardians? Online? Email? Text? Fax? Phone?</p> <hr/> <p>Will you report results to the proper local, state or federal agencies if necessary, to the school and to the parent/guardians?</p> <hr/> <p>Will the institution’s health department have reporting and dashboard visibility (e.g., view scheduling, testing status for campus)?</p> <hr/> <p>How integrated are the registration, scheduling, reporting, and follow up capabilities?</p> <hr/> <p>Are you Health Insurance Portability and Accountability Act (HIPAA) and General Data Protection Regulation (GDPR) compliant? Have you considered requirements for US/EU privacy shield, HITRUST, and System and Organization II (SOC II) certifications?</p>	<p>To what extent does the company rely on the school to manage tasks?</p> <hr/> <p>Describe the onboarding/registration/consent process for test-takers and the school itself</p> <hr/> <p>What student data is collected? What health information is collected?</p> <hr/> <p>Do you keep track of who has and who has not been tested?</p> <hr/> <p>Where is student data maintained and saved? What is the process for de-identifying data?</p>

**CHARACTERISTIC****KEY QUESTIONS****SUPPLEMENTAL QUESTIONS****Service(s)  
Available and  
Robustness**

What ancillary support services are available to K-12 schools?

---

Is testing administered by a licensed medical professional or self-administered?

---

Is there a barcoding system in place?

---

Are there training materials on how to properly administer the test?

---

Do you have experience testing individuals under the age of 18?

---

If you are providing pooled testing, what size of pool do you anticipate?

---

Do you provide deconvolution/reflex testing for positive pools? If yes, with what technology?

Would you be able to coordinate with another third party?

---

Are priority tests or emergency testing available?

---

What is the exceptions process? (e.g., a name is not on the enrolled students list or someone lost their ID)

---

Can you provide us with client references that we can talk to?

**Cost**

How does your pricing plan work?

---

Is staffing included in your services?

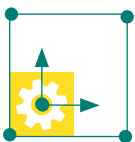
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Is PPE included in the cost? Are swabs included?

Who is responsible for shipping costs?

---

Does the price include storage and disposal of hazardous waste?

**Scalability**

How quickly/easily can you scale to accommodate my school's population needs?

---

How prepared is your company to handle an increase in demand?

---

Are subcontractors used?

---

How long of a commitment can you provide?

---

Can you guarantee sufficient supplies and services for this whole time period?

---

Are there any licenses required for the school?

Have you supplied tests for a similarly sized population before?

---

Is there a concern of stability of test kits during onsite storage?

---

Are there training materials or instructions to provide to test-site workers and/or test-takers?

---

How long will test kits/supplies last?



## Test Performance and Reporting Time

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Test performance is a major determining factor in deciding on the testing vendor. Consider asking a medical or scientific expert to review data on the sensitivity and specificity of the tests you are considering. Discuss the appropriate age groups with the testing vendor to ensure that the age groups intended to be tested can be tested properly.

Make sure the vendor clearly explains what the expected turnaround time will be for results (from time of sample collection to results reported). All school testing programs rely on prompt results to quickly identify and isolate positive cases. Delayed results or uncertain time frames prevent timely decision making and increase the likelihood of transmission within the school.

## Vendor Data Management

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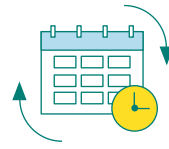
The ability to run data analyses to show how the infection rates in schools are changing over time compared to community infection rates can help schools and districts to make evidence-driven decisions on how and when to adjust the testing program or add other mitigation measures. In addition, a public dashboard that shows aggregated, near real-time testing data can help with the overarching effort to demonstrate a commitment to transparency, which can build trust between your school and parents/guardians/unions regarding the testing program.

### EXAMPLE IN ACTION

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The Commonwealth of Massachusetts partnered with Project Beacon to provide free Covid-19 testing sites to residents. Through their app, test-takers are able to register for tests, see results, and test administrators are able to report to public health officials from [the same platform](#).

Data management services that vendors can provide include:



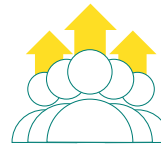
### REGISTRATION AND SCHEDULING



### COLLECTING AND STORING TEST RESULTS



### INFORMATION AND DATA MANAGEMENT that complies with HIPAA and FERPA



### COMMUNICATING RESULTS SIMULTANEOUSLY TO TESTED INDIVIDUALS (or parents/guardians), the school or district, and local and state health officials as needed



### REPORTING TO COUNTY AND/OR STATE DATA SYSTEMS



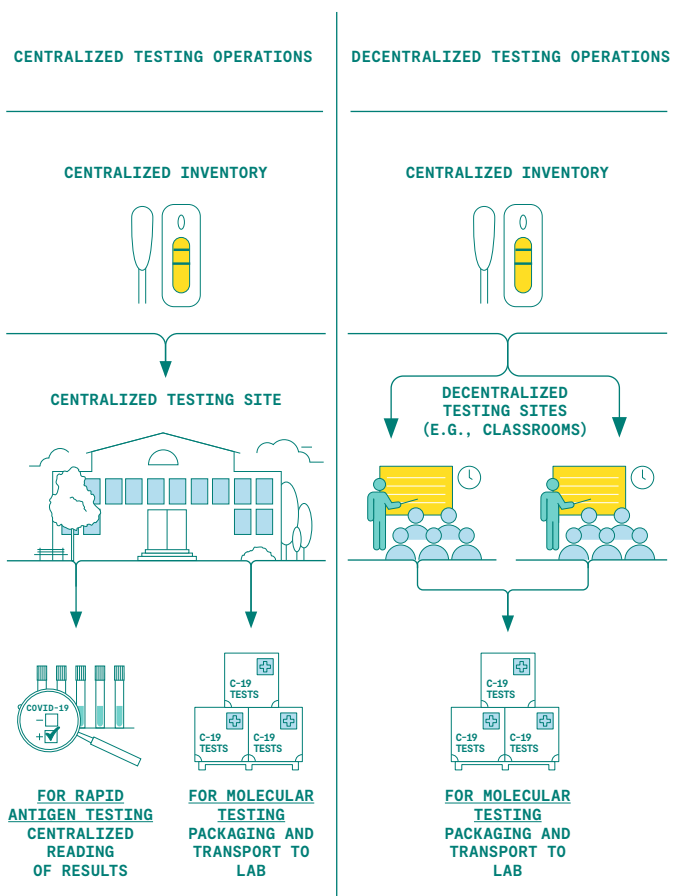
### SCHOOL AND DISTRICT-SPECIFIC DATA ANALYSIS AND DASHBOARDS (see example [here](#))

Some schools have used a [reporting app](#) that aggregates and reports the results of Abbott BinaxNOW tests to the required agencies. In addition, [SimpleReport](#) is new tool from the CDC that has the potential to streamline reporting of results for rapid tests. SimpleReport is a lightweight software platform that allows testing sites to record a result once and have the result sent to multiple agencies across county, state, and federal public health systems. As of January 2021, SimpleReport supports rapid tests from Quidel Sofia 2, BD Veritor, Abbott BinaxNow, Abbott ID Now, and LumiraDX.

### 3.4 Set up your facility

If you are collecting samples on site, determine whether to set up a central testing location or multiple testing locations across your campus depending on the test type and collection method for the tests you will be using. **Central test administration** means setting up one single test site on campus where all on-site testing procedures occur. **Decentralized sample collection** means distributing sample collection kits to classrooms or other satellite locations throughout the school building or campus and testing a smaller population of individuals at each test site. See **Figure 10** for an illustration of centralized and decentralized testing operations. If using a lab-based test, students and staff might self-collect samples at home and bring the samples in to the school for transport to a lab for analysis.

**FIGURE 10 Centralized and Decentralized Testing Operations**



You may want to consider a **centralized testing location** under the following conditions:

The type of tests you use must be administered by health professionals that can only serve the test site for a short amount of time.

You have enough space to support a larger, centralized testing operation.

You are using antigen tests that must be read by a trained professional a short time after sample collection.

You may want to consider **decentralized sample collection** under the following conditions:

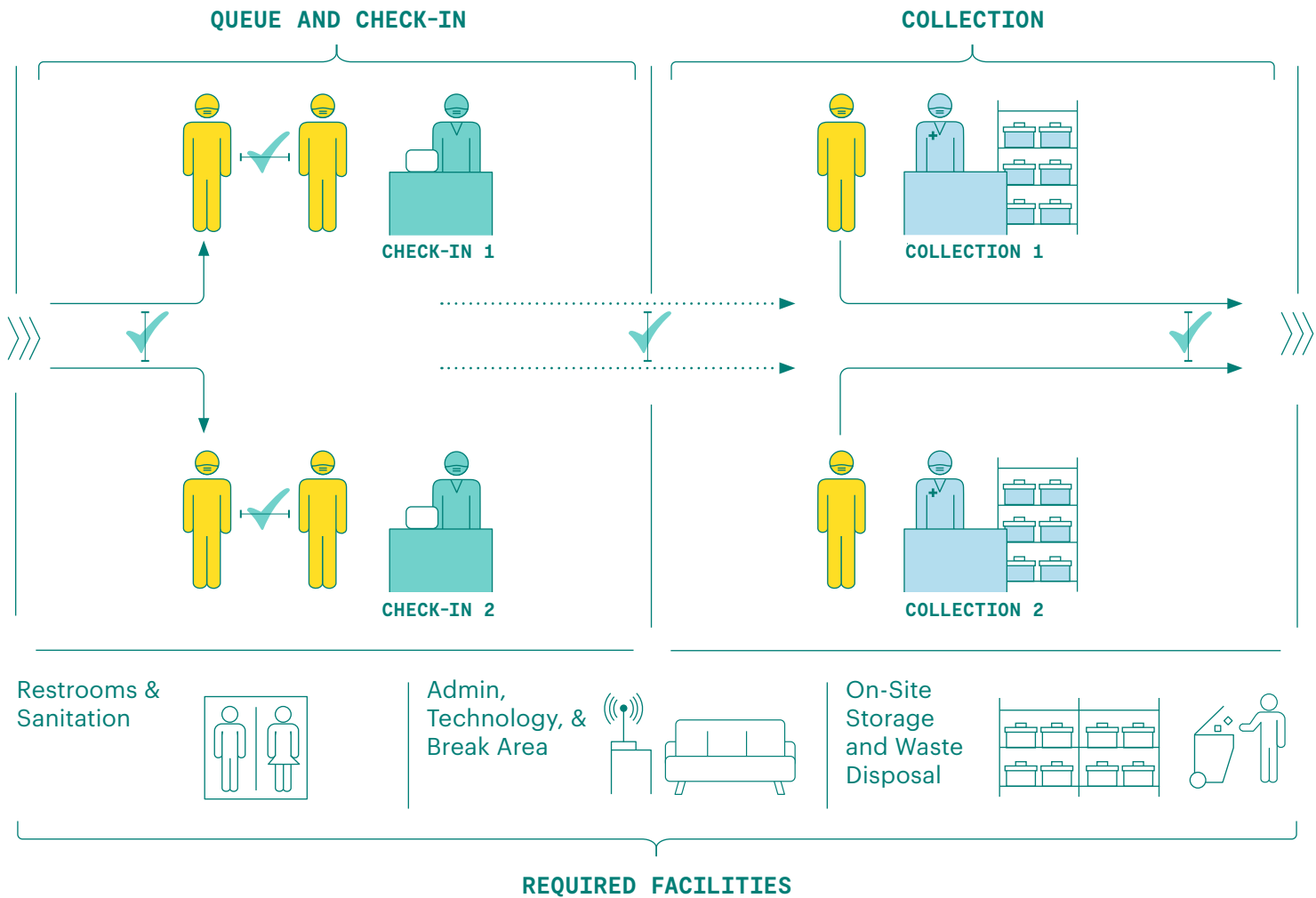
The type of tests you use may be self-administered by the individual being tested and observed by a non-health professional (e.g., teacher or volunteer). In the future, that may include fully self-administered antigen tests.

You do not have enough space to support social distancing protocols in a central location.

You want to avoid central congregation of individuals and rather opt to test in classrooms.

In each of these scenarios, you should manage inventory, and (if required) package and transport specimens centrally to ensure you can monitor supplies and maintain the integrity of samples.

FIGURE 11 Example Walk-up Site Diagram



### 3.4.1 Facility requirements:

#### Centralized Test Administration

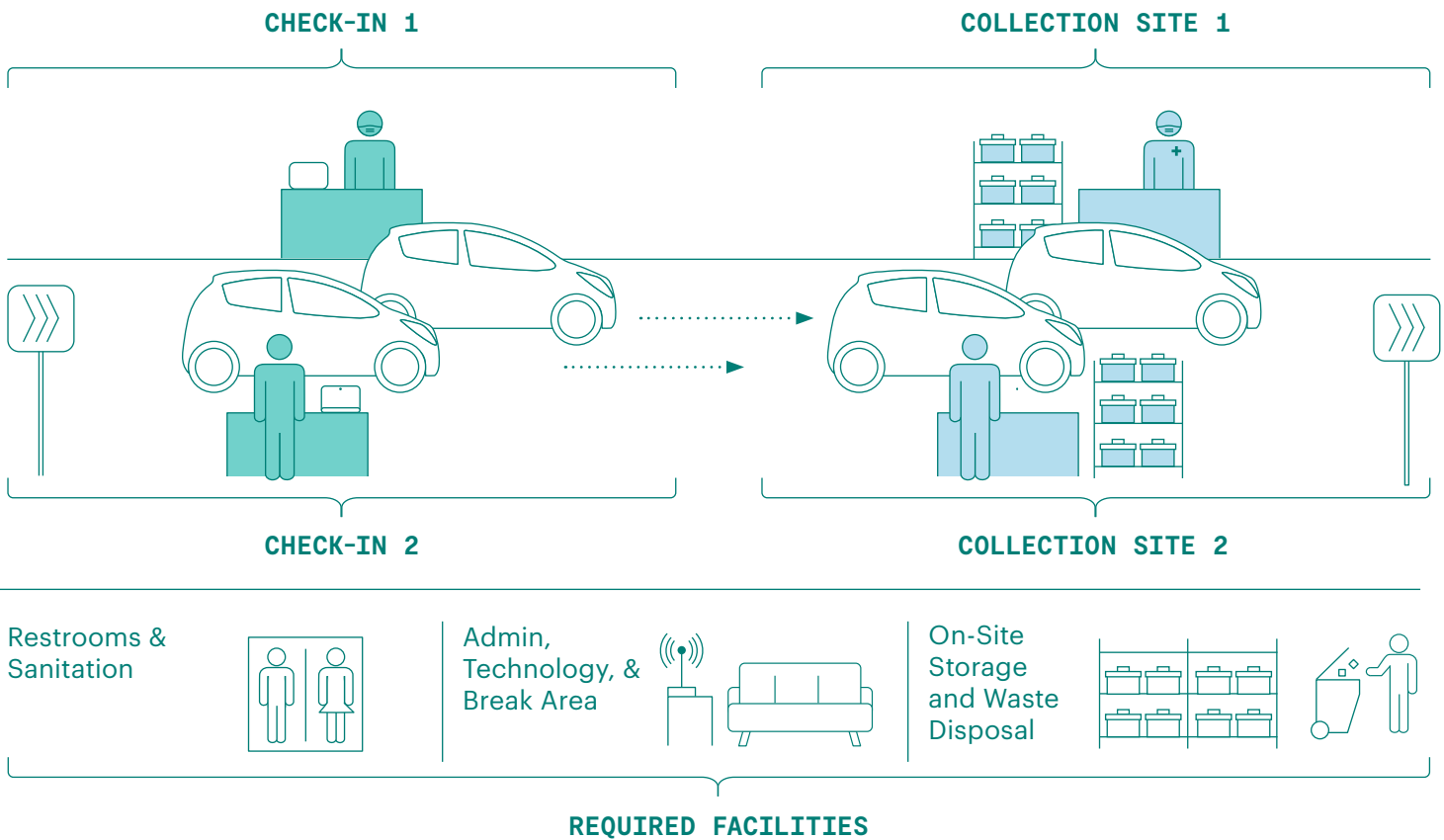
When setting up a centralized test site on a school campus, consider:

#### 1. Physical spacing

The size of the test site should be based on the number of individuals expected on site at a given time.

- The test site should allow for enough physical distancing for every individual present, including staff, those waiting in line, and those actively being tested. The Colorado Department of Public Health & Environment developed a [Social Distancing Calculator](#) that helps you determine the maximum occupant capacity of your available space.
- Floor markers placed six feet apart should indicate where individuals should stand to maintain appropriate physical distance.

**FIGURE 12 Example Drive-through Site Diagram**



**2. Traffic flow**

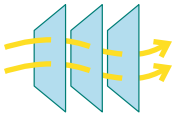
A centralized testing site should have a single, controlled entry and single, controlled exit point to minimize exposure risk.

- **Walk-up Traffic:** Use cones or other dividers and signs to maintain distance among individuals and guide participants through the testing flow. Design the traffic flow to accommodate participants with disabilities or indicate a separate traffic flow for participants with disabilities to navigate the space. See **Figure 11** for an example layout of a walkup site.
- **Drive-through Traffic:** Only consider drive-through set-up if a material number of individuals being tested have vehicle access and you have enough space for testing and supporting areas (assume 25 ft x 10 ft space per car in testing lanes). In addition, if you

design a drive-through model, make sure you host testing at drop-off or pick-up times of day. See **Figure 12** for an example layout of a drive-through site.

The figures above are for molecular tests. If you are doing antigen testing, you will need an additional place where the collected tests can be read and potentially also a separate waiting area for individuals awaiting test results. In a routine testing program when testing is conducted throughout the day, you may also choose to send the students back to class to await results.

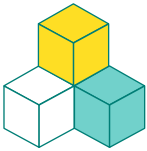
More information on testing site designs and site flows can be found in this [report](#) from the Network for Regional Healthcare Improvement and MASS Design Group.



### 3. Ventilation

Improve ventilation as possible to promote continuous airflow.

- **Outdoors:** Opt for outdoor locations (e.g., parking lots with tents) where possible. Have a backup plan for outdoor locations if weather is not suitable for testing outdoors.
- **Indoors:** When outdoor options are not available, use large rooms such as gymnasiums with as much ventilation as possible. Open doors and windows, weather permitting. Ensure the space has six to 10 air changes per hour and utilize minimum filtration level of MERV13 (or use industrial grade HEPA units). All participants and staff should always be masked (except during test sample collection, of course).



### 4. Storage capacity

Confirm that sites have space to store at least a day's worth of testing supplies.



### 5. Staff restroom availability

Provide staff with staff-only restrooms, if possible.

## EXAMPLE IN ACTION

Based on information shared with Mathematica and The Rockefeller Foundation, Friendship Public Charter School in Washington, D.C. piloted its first asymptomatic screening event using a drive-through set up. This centralized process worked for the school community because 1) it was outdoors, 2) enabled collective, on-the-spot problem solving across testing team members, and 3) meant that the team only needed to bring people and supplies to centralized locations, which helped simplify a complex process.

### 3.4.2 Facility requirements:

#### Decentralized Sample Collection

When collecting samples in multiple locations throughout a school, such as when students are self-administering nasal swabs in a classroom, confirm that physical set up requirements are already in place. For example, the classroom may be well ventilated because you can open windows and space desks apart. Additional considerations include:

#### 1. Supply and staff distribution

Distribute staff, test kits, PPE, and other required resources among test sites.

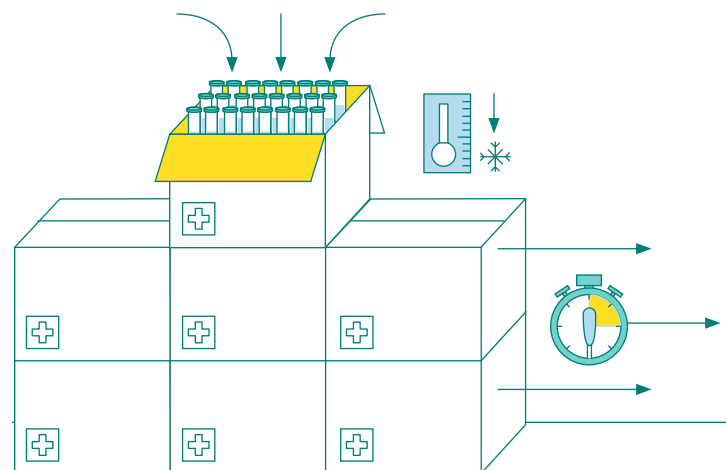
#### 2. Uniform cleaning process

Show the standard way to sanitize frequently touched surfaces, seal the collection containers, and throw away gloves. This is important for all test sites, but decentralized test sites may have more people performing these tasks, so careful training is particularly important.

#### 3. Specimen transport within schools

Once you collect test specimens, properly transport them to a central location for storage, packaging, and transport.

- Train decentralized testing staff, including teachers if they are administering tests, on the proper protocol to collect and transport specimen safely to a centralized location (e.g., keeping test kits at proper temperatures in classrooms).

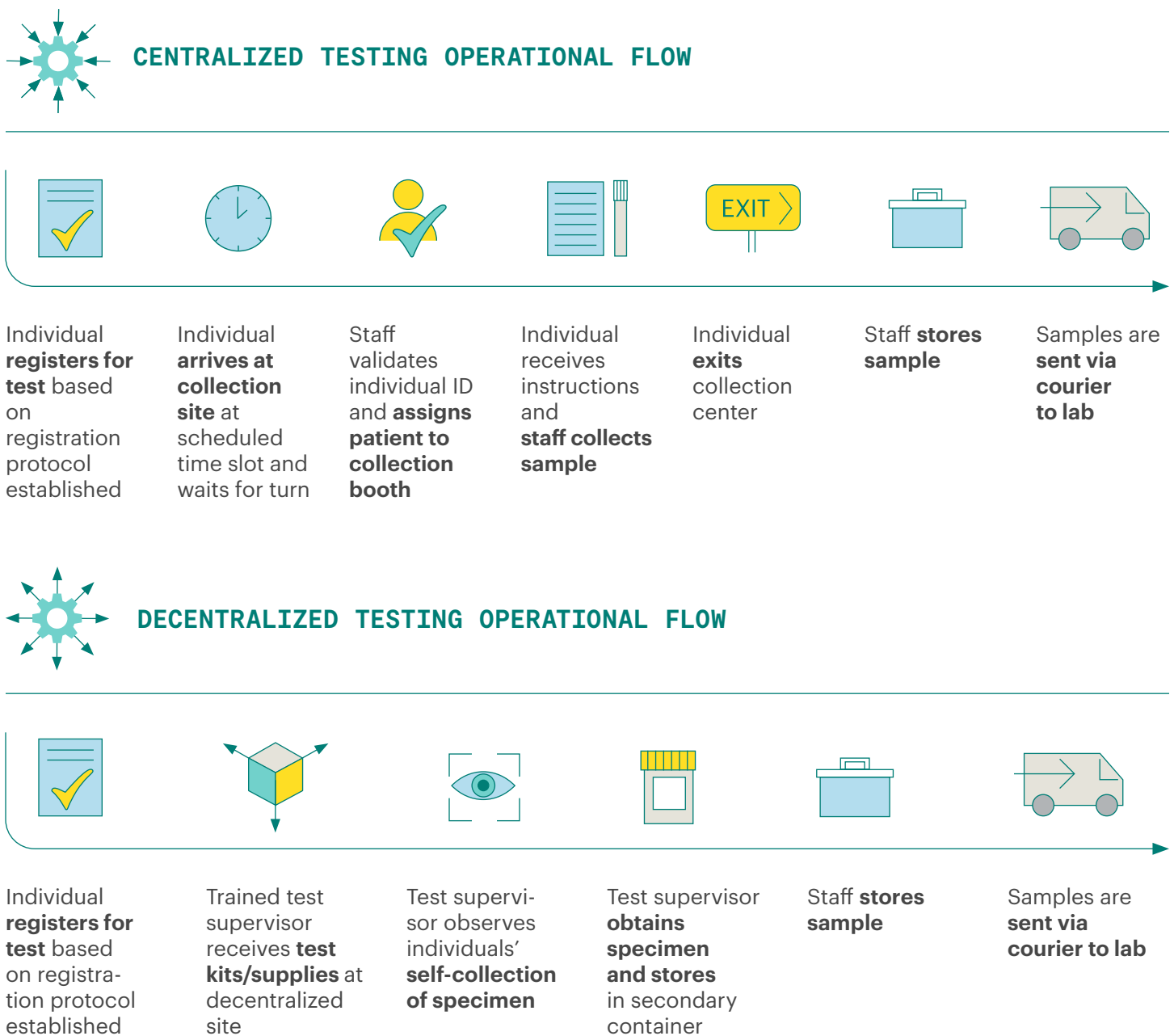


### 3.5 Design test operation flow

The flow of the test operations differ based on the test site design and type of test. General process flows outlined in **Figure 13** demonstrate how a centralized and decentralized process for molecular tests could operate. It is important to understand the flow of

operations in order to determine the staff needs, highlight specimen transport points, and communicate the process to all participants involved. Remember, if you are doing antigen tests, you will need additional stations to review test results.

**FIGURE 13 Centralized and Decentralized Testing Operational Flow**



## 3.6 Estimate personnel needs

Once the test site design is complete, determine the number of test site workers needed, roles and responsibilities of each test site worker, and criteria for each role.

### 3.6.1 Define roles and responsibilities

Roles and responsibilities vary depending on the type of tests administered (e.g., rapid antigen tests may require separate staff to monitor the collected tests and read the results on a timed basis), test site location, test-taker age, among other factors. See **Table 9** for a list of roles and responsibilities for test administration.

#### EXAMPLE IN ACTION

According to the [Mathematica report](#) and information shared with the Foundation, Staffing at Tulsa Public Schools has been difficult because the nursing staff is on the front lines of Covid-19 response. The District's Nursing Director and a fellow nurse came up with an innovative solution for the on-going problem. A nearby school, Tulsa Tech, had nursing students that needed practicum hours but the nurses in training had a hard time finding hours in healthcare settings due to Covid-19 restrictions. The District and Tulsa Tech partnered so that students could receive practicum hours for administering tests.

### 3.6.2 Filling test site roles

You should fill certain test administrator positions with individuals who have specific credentials and training, as discussed below. Staffing for other positions, such as registration attendants, and runners, can be done with school personnel, parent volunteers, college and university students, or staffing agencies. Some schools have developed incentives to attract more test site personnel such as providing community service hours or offering academic credit to local nursing students. Depending on the vendor you are working with, some of these roles may be filled as part of your service agreement.

Test administrator responsibilities vary based upon type of sample collection. For example, in some cases, the test administrator might only be responsible for ensuring all self-administered swabs are placed in the correct sample vial, sealed and stored. In other cases, the test administrator will need to actively swab the individual's nasal passage, perform the test, and read the results, which requires formal training. Some testing vendors will provide staff who can be the testing administrators; if not, you will need to find staffing for this role.



**TABLE 9 Test Site Staff Roles and Responsibilities**

ROLE	RESPONSIBILITIES
<b>Test Site Lead</b>	<p data-bbox="500 296 932 321">Advises on healthcare procedures</p> <p data-bbox="500 363 1101 388">Monitors testing material and PPE requirements</p> <p data-bbox="500 430 984 455">Serves as point of contact for vendors</p> <p data-bbox="500 497 959 522">Provides oversight of test shipments</p> <p data-bbox="500 564 964 590">Enforces proper test site procedures</p> <p data-bbox="500 632 756 657">Oversees site set-up</p>
<b>Test Administrators</b>	<p data-bbox="500 720 906 745">Dispenses and inspects test kits</p> <p data-bbox="500 787 1395 812">Supervises and/or administers tests, provides instruction to test-takers</p> <p data-bbox="500 854 1430 879">For on-site antigen testing (multiple people may perform individual tasks)</p> <p data-bbox="500 921 915 947">Performs test analysis on sample</p> <p data-bbox="500 989 927 1014">After specified time, reads results</p> <p data-bbox="500 1056 1125 1081">(If required) enters results into computer systems</p> <p data-bbox="500 1123 829 1148">May assist with site set-up</p>
<b>Registration/ Check-In Attendants</b>	<p data-bbox="500 1211 756 1236">Registers test-takers</p> <p data-bbox="500 1278 829 1304">Scans test-taker barcodes</p> <p data-bbox="500 1346 1380 1371">Provides general troubleshooting with sign-up and registration issues</p>
<b>Runners</b>	<p data-bbox="500 1438 1230 1463">Monitors various zones of the test site to assist as needed</p> <p data-bbox="500 1505 703 1530">Sets up signage</p>
<b>Traffic Guides*</b>	<p data-bbox="500 1598 1516 1623">Guides test-takers on foot or in vehicles to check-in zones and through testing flow</p> <p data-bbox="500 1665 1516 1728">Ensures test sites are adequately spaced and test-takers are moving through the flow correctly</p>
<b>Drop-Off Attendants*</b>	<p data-bbox="500 1795 1081 1820">Oversee exit zone where test kits are dropped</p> <p data-bbox="500 1862 1230 1887">Instruct individuals to dispose of test kits in collection bin</p>

\* Optional



Test administrators will likely be the most difficult role for schools to adequately staff. This is sometimes because there is a shortage of available health care personnel or existing staff have liability concerns with performing these tasks. These hurdles may lead schools to adopt more creative approaches of staffing such as hiring retired nurses or nurses-in-training.

Work with local health officials and test vendors to determine when/if it is appropriate to use non-health professions as test administrators. Once this is determined, it can be helpful to create specific guidance that details the qualifications of someone who can administer the test. See the [Appendix](#) for an example.

**Figure 14** provides examples of the types of individuals who may be identified as suitable test administrators, based on your specific circumstances.

Pilot testing programs among K-12 schools across the country observed several staffing best practices:

- 1. Partnerships with EMS agencies, the National Guard, testing vendors, and local public health officials** can increase capacity to staff testing programs and reduce the burden on school staff.
- 2. Engaging students' parents/guardians as volunteers can help** promote buy-in from families and increase their support for the testing program.
- 3. Testing staff members and volunteers should be familiar and comfortable** working with children if they are in student-facing roles. It is important to ensure that students are comfortable participating in the testing program in order to create the best experience possible and maintain their participation. Schools should perform due diligence to ensure any required waivers or training for volunteers to work in the K-12 environment are met by volunteers.

## EXAMPLES IN ACTION

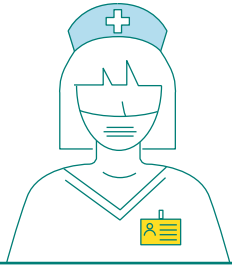
According to information shared with Mathematica and the Foundation, during their first testing event, the Friendship Public Charter School team in Washington, D.C. learned that “when it comes to administering tests, experience matters. Things to look for include pediatric experience, school nurse experience, the ability to express empathy for families, an understanding of how schools operate, and they need to be able to work with children, especially younger ones because ages three to five who can be the hardest to test.” The team involved parents at the testing site to help them feel more comfortable with the process. This increased buy-in for testing because it made the parents feel like they were part of the solution.

The team in New Orleans, Louisiana contracted with a hospital partner to provide training on test administration and results interpretation for their BinaxNOW tests. They continue to partner with them to answer questions from school nurses at a contracted rate of about two hours per week. More information can be found in the [Mathematica report](#).

The team in Louisville is recruiting health care providers who can provide trauma-informed care. This skill set is important because they will “be better able to understand and address any contextual factors that shape students’ fears and concerns” about testing. More information can be found in the [Mathematica report](#).

**FIGURE 14 Test Administrator Staffing Options**

**SCHOOL NURSES**



Registered nurses in school health centers or nurse's offices can administer tests for students, faculty, and staff.

**ADVANTAGES**

Already embedded in school community

Familiarity with population and setting

Strong connection to school/district leadership and testing committee

**PARENTS/GUARDIANS**



Parents/guardians may be trained to administer certain types of tests, regardless of health training background.

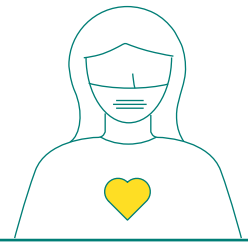
**ADVANTAGES**

Expands the staff pool available and capable of administering tests

Reduces burden on school nurse staff

Generates buy-in for testing from community

**COMMUNITY VOLUNTEERS**



College and graduate school boards, local volunteer sites, and community or religious organization volunteer programs may be good sources to fill general volunteer roles.

**ADVANTAGES**

Expands the staff pool available and capable of administering tests

Reduces burden on school nurse staff

**OTHER HEALTH PROFESSIONALS**



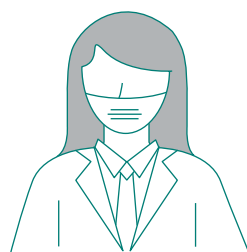
Health professionals other than registered nurses or local health department officials may administer tests to school community.

**ADVANTAGES**

Expands the staff pool available and capable of administering tests

Reduces burden on school nurse staff

**PUBLIC HEALTH OFFICIALS**



Pending district approval, local health department may be contracted to administer tests for school community

**ADVANTAGES**

Strong connection with local health department aids in eventual contact tracing and reporting requirements

Familiarity with and possibility to leverage supply chain partnerships established with local community

**ATHLETIC COACHES/DIRECTORS**



Athletic coaches or directors can be trained to administer certain types of tests, as well as be floaters in the general test area

**ADVANTAGES**

Expands the staff pool available and capable of administering tests

Reduces burden on school nurse staff

Provides sense of familiarity to students being tested








### 3.7 Estimate equipment and supply needs

The list of materials you will need will vary depending on the type of test being performed, but a sample list is below.

It is particularly important to consider the amount of PPE needed per test site worker. The CDC provides updated guidance for PPE and safety supplies needed at Covid-19 testing sites. For example, staff who will

not be directly involved in specimen collection or who will be greater than six feet away from the person being tested may not need gloves and gowns. Common PPE needs include gowns, N95 masks equivalent or higher-level respirator, gloves, and eye protection. Test-takers only need masks. Many state health departments have posted sites listing reliable PPE vendors, such as the [Los Angeles County Health Department site](#).

**TABLE 10 Sample List of Equipment and Supply Needs**

 <p><b>IT EQUIPMENT</b></p> <ul style="list-style-type: none"> <li>• Tablets and/or laptops (with any required software/apps downloaded and tested)</li> <li>• Laptop and/or tablet chargers</li> <li>• WiFi and router</li> <li>• Electrical power</li> <li>• Extension cords, surge protectors</li> <li>• Stands with wheels</li> <li>• Barcode scanner</li> <li>• Printer with paper</li> <li>• Printer cartridges</li> <li>• Copier nearby</li> </ul>	 <p><b>SAMPLE COLLECTION AND TEST KITS</b></p> <ul style="list-style-type: none"> <li>• Test kits (if testing on-site; from test vendor)</li> <li>• Collection kits (e.g., swabs/test tubes (if sample collection only; from test vendor))</li> <li>• Tube collection racks</li> <li>• Hazardous waste designated trash bins</li> <li>• Labels for test tubes/bags</li> <li>• Cooler/ice packs for sample refrigeration</li> <li>• Return packaging and shipping label</li> </ul>	 <p><b>SITE SUPPLIES</b></p> <ul style="list-style-type: none"> <li>• Office supplies – clipboards, pens, sharpies, etc.</li> <li>• Information pamphlets about test procedures</li> <li>• Extra copies of forms</li> <li>• Name tags or “Ask Me” buttons for staff</li> <li>• Packing tape for sample collection boxes</li> <li>• Tape to mark social distancing</li> </ul>	 <p><b>CLEANING PRODUCTS</b></p> <ul style="list-style-type: none"> <li>• Hand sanitizer – at check-in and at testing stations</li> <li>• Trash bags</li> <li>• Trash bins</li> <li>• Cleaning products (e.g., disinfectant wipes, paper towels)</li> </ul>
 <p><b>SITE EQUIPMENT</b></p> <ul style="list-style-type: none"> <li>• Pop-up tents (for outside events)</li> <li>• Tables and chairs – check-in</li> <li>• Tables and chairs – test stations</li> <li>• Privacy screens/plexiglass screens</li> <li>• Cones/stanchions for line delineation</li> <li>• Securable storage containers for PPE, supplies</li> <li>• Space heaters, fans, or air filters, if needed</li> <li>• Signage</li> </ul>	 <p><b>PPE</b></p> <ul style="list-style-type: none"> <li>• N95 masks for test administrators</li> <li>• Disposable gloves of various sizes</li> <li>• Disposable isolation gowns</li> <li>• Face shields or eye protection</li> </ul>	 <p><b>STAFF SUPPORT</b></p> <ul style="list-style-type: none"> <li>• List of key contacts for IT support, school emergencies, etc.</li> <li>• Radios for communication (large sites)</li> <li>• Bottled water and snacks</li> <li>• Safety vests (for drive-through models)</li> <li>• Confidentiality forms for volunteers</li> </ul>	

### 3.8 Define inventory tracking and test storage procedures

Inventory tracking procedures will vary based on the type of test and collection methods used; supply chain capacity; and on-site storage resources. **Figure 15** lists some of the key questions to consider when you set up the program's inventory management procedures. A more detailed worksheet can be found in the [Appendix](#). For example, if 100 total students and staff have opted into testing, you plan to test all participants weekly, and you set minimum threshold that requires 25% of one month's testing materials be on hand at all times, you should acquire 400 tests monthly and replenish your inventory whenever the stock decreases to 100 tests on-hand (assuming a one-week lead time).

You should determine inventory levels and minimum thresholds for all types of supplies and equipment required to carry out testing (e.g., tests, N95 masks, face shields, gloves, gowns, computers, timers).

Work with testing and supply vendors to understand any storage requirements for the supplies you acquire. For example, storing test kits in a storeroom right next to a heater might impair the functionality of the test kits. Knowing the storage requirements and shelf-life, especially of test kits, is crucial to ensuring test accuracy and avoiding unnecessary waste. Monitor expiration dates for the tests and make sure to use the tests with the nearest expiration date first.

If you plan to centrally manage inventory at the school district level and distribute to schools based on reported stock levels, it is important to set up a standard method for schools to communicate their inventory needs to the central team. In the event of strained supply chains, consider setting standards for resource allocation across schools with the guidance of local health officials. Prioritize schools in communities with higher Covid-19 prevalence over schools in communities with a low prevalence.

FIGURE 15 Inventory Considerations

### INVENTORY CONSIDERATIONS

- What is the target population and how many tests will be conducted weekly?
- How many test kits are used on average per week?
- How long does it take to get the tests after an order is placed? Does ordering more tests mean a longer wait?
- How many test kits need to be ordered and at what frequency?
- What are the requirements for test kit storage?
- What are the requirements for test sample storage?
- What is the protocol when there is a stockpile of test kit inventory?
- How should the inventory/stockroom be organized for maximum efficiency?
- Are there any biohazardous material considerations to be taken?

## EXAMPLE IN ACTION

Texas Education Agency (TEA) stood up a central operation to coordinate Covid-19 testing across the state's schools. They laid out clear criteria and plans for inventory allocation based on prevalence in each school's community. To manage inventory centrally, TEA requires schools to maintain a weekly inventory tracker. See the [TEA Covid-19 Testing Playbook](#) for more information.

### 3.9 Set protocols for use and disposal of PPE and other supplies

Consult local public health guidance to determine the appropriate procedures for disposal of PPE and other testing supplies, since waste regulations vary from state to state. In some states (e.g., [Texas](#)), PPE used while administering testing is not considered medical waste, but test kits are considered regulated medical waste and must be disposed of accordingly. Disposal procedures might require you to separate certain waste from other garbage, use specific standards for waste containers (e.g., rigid, leak-resistant container), follow specific storage guidance, work with registered transporters, and maintain records of proper disposal (including transporter name, weight/volume of waste, and name of destination facility). The CDC provides guidance on [waste management](#) regarding Covid-19 test sites.

### 3.10 Determine how test samples will get sent to the lab

If you are sending your samples to a lab for testing, work closely with testing vendors to determine the proper packing and shipping procedures required for safe specimen transport. These vary based on the approved methods for the specific type of test used. Document the transport plan, including agreed-upon turnaround time from sample collection, to transport, to test processing. If the lab is nearby, you can

have samples sent by courier (minimizes turnaround time). If the samples must be sent to the lab by UPS or FedEx, make sure they are sent overnight/priority delivery (so they arrive the next morning) and confirm the school's UPS/FedEx pickup schedule. It would be helpful to coordinate site closure with this timing so all samples collected in that day can be transported as soon as possible. When there is a delay between sample collection and delivery to the lab, it increases wait time for results, extending the period that infected individuals may unknowingly expose others.

### 3.11 Develop a data management plan

In the case that data management is not fully handled by the testing vendor, your school will be responsible for organizing and keeping track of the testing information internally. You will need to track the following:

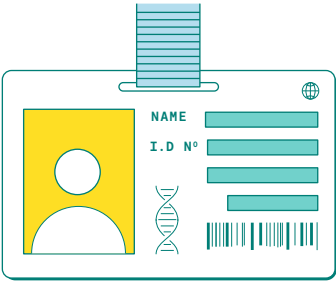
#### Consent from parents/guardians and staff

#### Test registration and appointment scheduling

#### Completed tests and results

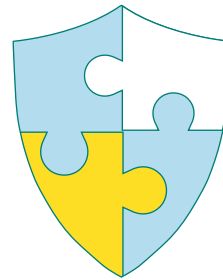
#### Data security and compliance with local and federal privacy laws

**Keeping Track of the Consent Forms:** Some vendors will have processes to track consent forms. If your vendor does not, leverage whatever primary data source you are currently using (e.g., attendance roster) as a starting point to track student consent forms from parents/guardians. You may opt to develop a digital consent form and send it via a school-wide email or web portal, then track against the attendance roster. Alternatively, you may collect paper consent forms, digitize them, and keep an organized file on hand to have staff manually monitor which students have consent forms and which do not. In addition, dedicate staff to maintaining an up-to-date list of students, teachers and staff as enrollment and employment changes are made. Standing up a plan, procedure, and database to track consent will help ease the process once the testing program rolls out.



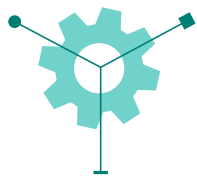
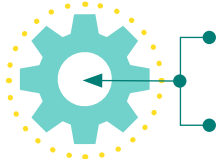

**Registration and Scheduling:** If the testing vendor does not provide a registration solution, consider leveraging the consent form list for test scheduling as necessary. Work with the testing vendor to determine what information needs to be collected via the registration forms before an individual arrives to the test site. If your testing process requires individuals to schedule testing appointments, you will need a scheduling solution. Consider commercially available solutions like GSuite (Forms, Sheets, and Calendars), Acuity, Calendly, Doodle, or other ready-made scheduling platforms to organize test schedules and manage the number of appointments at any given time. *Note that if you are using a scheduling platform, you must confirm that no protected health information will be collected or stored on the platform. These platforms are not built to secure sensitive information.* You may opt to build your own registration application to schedule tests. For convenience, it is recommended that you use a platform that allows individuals to complete the registration form and schedule an appointment at the same time, preferably via the same platform. When selecting a system for registration and scheduling, remember that many students and families will prefer to access the system on a mobile device. Test mobile functionality to make sure your system works reliably on both Android and Apple devices.

**Technical Systems Integration:** If your test results will be read off-site by a lab, understand the platform or approach the lab or vendor uses to report results so you are prepared to receive test results. There are external vendors who can provide systems integration capabilities and work directly with the testing vendor to ensure schools will have access to the test result data.



**Data Security:** All protected health information must adhere to certain data security requirements. The individual tested (including parents/guardians), school Covid-19 coordinators, contract tracers, and authorized health authority (prescribing physician or school nurse) should be the only people who have access to an individual's test results. Ensure that any legal considerations for tested individuals 18 years and under are accounted for and confirm that testing vendors follow all requirements of the [HIPAA](#) and [FERPA](#) guidance. Establish a clear process for data de-identification if any individual-specific data is involved. Data should be stored in a database that is adequately secured. Consider the questions in **Table 11** when assessing a vendor's technology tools or building your own.

**TABLE 11 Data Management Considerations**

CHARACTERISTIC	BASE QUESTIONS	SUPPLEMENTARY QUESTIONS
<p><b>Technical Capability</b></p> 	<p>Does the capability for data management and results reporting exist within the school or school district?</p> <hr/> <p>Does a third-party vendor need to be utilized?</p> <hr/> <p>What kind of reporting capability is needed (e.g., dashboard, results reporting platform, emails or texts to students and families)?</p>	<p>What are the cost implications of hiring a third party?</p> <hr/> <p>Who will be the primary point of contact for the third-party vendor?</p> <hr/> <p>What are the technical and functional needs of the third-party vendor?</p>
<p><b>Data Integration</b></p> 	<p>Does the vendor’s technology allow for data access via an application programming interface (API) or exports (if applicable)?</p> <hr/> <p>Does the vendor have experience integrating with technology already used by the school?</p> <hr/> <p>Does the vendor’s technology integrate with or export to other systems the school needs to report into?</p>	<p>What other technology needs to be integrated with the reporting capability?</p> <hr/> <p>Who will be responsible for integration? The vendor or the school’s IT staff?</p>
<p><b>Other Considerations</b></p> 	<p>What unique identifier will be used to students across the system (e.g., school ID #; avoid social security number if possible)?</p> <hr/> <p>How will lists of students tested/not tested be managed?</p> <hr/> <p>How will students who registered be managed?</p> <hr/> <p>How will tests that were scheduled but not administered be reported?</p> <hr/> <p>How will results be reported?</p>	<p>Is there an easy way to run custom reports?</p> <hr/> <p>Has the data management approach been reviewed for compliance with relevant local and federal laws (e.g., HIPAA, FERPA)?</p>

## 3.12 Understand legal considerations and regulatory requirements

### 3.12.1 For on-site analysis: obtain a CLIA waiver

For rapid tests that are not designated for “at-home” use, you must obtain a CLIA (Clinical Laboratory Improvement Amendments) certificate of waiver for any CLIA-waived test that will be processed and read on school grounds (e.g., the BinaxNOW Covid-19 Ag Card rapid antigen tests or Sofia SARS Antigen Fluorescent Immunoassay Tests). The CLIA waiver permits schools to administer and process CLIA-waived tests in a non-laboratory setting. **A CLIA waiver is not required for tests that will be transported to a lab to be processed and read (e.g., most molecular tests).**

Because states apply CLIA regulations differently, consult legal counsel to confirm whether a CLIA waiver is needed in your circumstances. For example, in [Pennsylvania](#), the CLIA waiver has a multiple location exemption that allows a school district to apply the waiver to all its schools, but some states require each individual location to apply for its own waiver. Leaders should work with local or state health department officials to determine the best CLIA waiver structure for the location and can also refer to [CLIA Categorizations](#) for more information. Some states have the same structure for all local jurisdictions in the state.

Before applying for a CLIA waiver, work with your vendor as well as local or state public health officials to answer the following questions:

1. Do the Covid-19 tests you are using require a CLIA waiver, based on the FDA label?
2. Are there any existing CLIA waivers that cover your location?
3. Have all requirements been met for the school or district to be qualify for a CLIA waiver (to be checked with your [state agency](#))?
4. What reporting requirements will the school need to adhere to? There are strict standards of data tracking and reporting required when operating a CLIA-waived location. A list of data that CLIA-waived sites need to track and report can be found [here](#).

When preparing your [CLIA waiver application](#), follow the steps below:

1. **Contact your state health agency to determine what location(s) can be covered by a single CLIA waiver in your state (e.g., state-wide, district-wide, or school-specific coverage for each waiver).**

#### EXAMPLE IN ACTION

According to the [Mathematica report](#), New Orleans Public Schools worked with the local health department to use the health department’s CLIA waiver to cover more than 70 schools as testing sites. This means that any school that wants to participate in testing can do so.





2. **Enroll the school/school district unit in the CLIA program by completing an application (Form CMS-116) available on the CMS CLIA site or from your state health agency.**
3. **Send your completed application to your state health agency.**
4. **Work with your state health agency to determine the reporting requirements necessary for compliance of the CLIA-waived location.**

You can reference the [Quick Start Guide to CMS CLIA Certification](#) for step-by-step instructions.

### 3.12.2 PREP act considerations

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The PREP Act offers coverage against liability “for any ‘claims for loss’ caused by, arising out of, or relating to the administration” of a Covid-19 test for licensed health care practitioners prescribing or administering the FDA authorized Covid-19 tests. In some states, non-health professionals may be qualified to administer or supervise certain types of Covid-19 tests and covered by the PREP Act in their state. This means that school district personnel (and the school districts that employ them) may be immune from liability under the PREP Act, provided that they administer testing pursuant to the direction of the local department of public health that has jurisdiction over the area’s public health response after a declaration of public health emergency.

You can institute Covid-19 testing while taking advantage of the PREP Act’s immunity protections in two ways. First, a school can provide physical space to allow a medical provider or public health department to administer a testing or vaccination program. Or, you can develop an agreement with your local public health authorities and direct qualified school personnel to administer Covid-19 tests. Ensure that your site follows all applicable health and safety mandates, including those Emergency Use Authorizations (EUAs) and other requirements surrounding administration of testing for Covid-19.

### EXAMPLE IN ACTION

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As designated CLIA-waived testing sites, schools in Tulsa Public School District were required to adhere to additional reporting requirements but had little operational guidance on how to comply with these requirements. This meant that the school district and the local health department had to develop guidelines to report in a HIPAA-compliant manner. If possible, ask state public health authorities for clear guidance on ethical, legal, and regulatory requirements before launching your testing program. More information can be found in the [Mathematica report](#).

### 3.13 Develop process for reporting results

**Reporting results to county/state:** If you are working with a lab that will be reading tests off site, the lab is responsible for reporting results to you and public health authorities; you should confirm that they will adhere to required reporting standards. If you are processing and reading results for tests that you have administered on-site, you will be required to report results to local public health officials. HHS released guidance on June 4, 2020 that details the technical reporting requirements: lab-based testing, and non-lab-based testing.

According to the CDC, data must be reported daily, within 24 hours of test completion to the appropriate state, tribal, local, or territorial public health department. State and local policies may vary. This is, in part, so that contact tracing can start as soon as possible, limiting spread.

HHS mandates multiple metadata fields that must be collected alongside test results. See the Appendix for the current list. Whenever possible, collect these metadata from test-takers once and join them with subsequent test results using a unique identifier instead of asking test-takers to provide metadata every time they are tested.

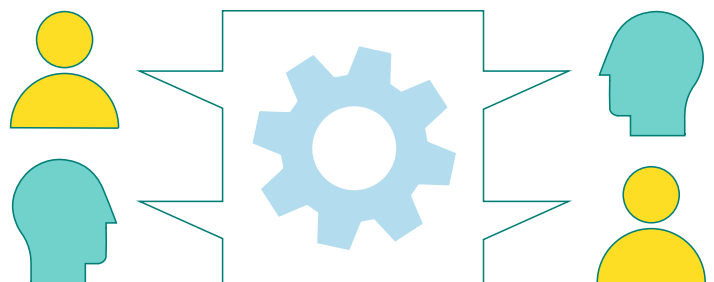
**Reporting results to individuals:** In addition to adhering to formal data reporting regulations, determine a quick and consistent method to share individual results with tested individuals and parents/guardians. In some cases, the vendor will report to individuals and the school simultaneously. In some cases, the school will get results first.

When communicating results, data should always be displayed in an easy-to-read format. If the results are communicated electronically, ensure that the reporting system is a secure, consistently accessible, user-friendly system for parents/guardians, confirming accessibility to individuals with disabilities and English-language learners.

#### EXAMPLES IN ACTION

The Tulsa team shared with The Rockefeller Foundation that reporting test results to the state presented multiple challenges. One challenge was that the team could only input one test result into the data reporting system at a time (as opposed to uploading a CSV file). The team sought out an alternative approach and met with a group called Project Beacon to create a new standalone system that would integrate with the state health department. This standalone system may prove to be a model for the rest of the state. The superintendent in this district strongly supported strengthening data infrastructure to ensure testing was scalable and sustainable.

According to the Mathematica report, in Washington, D.C., the Friendship Public Charter School pilot program found that, although BinaxNOW test results must be read shortly after samples are collected, **negative results** do not necessarily need to be communicated immediately. It may be more logistically feasible to inform students and their parents about test results in batches at key moments in the day, rather than communicating each result as it becomes available.



In addition to individual results, consider developing a public dashboard for both the school and broader community. Any district/state/country mandated requirements for reporting to parents should be included in dashboards and readily accessible. If developing a dashboard is not possible, explore ways to quickly communicate the results in a static format (e.g., newsletter) on a consistent basis.

### 3.14 Define Communications Plan

Clear, consistent communications are a crucial component to building trust among the school community when rolling out a testing program. Also, keep in mind that the goal of communications is not simply to relay information clearly, but to motivate your school community to get tested. Consider the audience, messengers, methods, cadence, and content when developing a communications plan.

**Consider the particular circumstances of your audience.** Consider the cultures and languages that exist across your school population. Develop materials in languages and concepts used by the local community. This can build trust because it demonstrates that the school and public health partners are considering the everyday reality of community members. The Network for Regional Healthcare Improvement (NRHI) included [strategies](#) for promoting positive testing experiences and community awareness in its testing toolkit.

Remember that different audiences will be approaching this topic with different experiences, and therefore may respond to different types of messages. Here are some [best practices](#) to remember when you're planning your strategy. **Figure 16** also has common messaging best practices as you develop the communications plan.

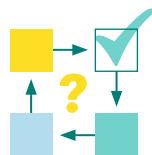
FIGURE 16 Messaging Best Practices

#### MESSAGES – WHAT TO SAY?



##### BE CONSISTENT

In a crisis, people actively seek to confirm information from multiple sources. All voices at all levels must deliver the same simple message



##### PROMOTE SIMPLE ACTIONS

People are discouraged by complexity. They need to see that actions are straightforward



##### CLEAR AWAY OBSTACLES

Messages should counter resistance such as fear of being forced into self-isolation without essential support services



##### ADDRESS PRIVACY CONCERNS

Communications should explain the process in which personal information will be protected



##### COUNTER SKEPTICISM

Messengers must consistently remind the public that information and recommendations will continue to change as we learn more about the virus



##### SATURATE WITH VARIOUS FORMATS

Messages should be available on a variety of formats to reach various demographics

When you are creating an audience-specific message, ask yourself what you know about the characteristics of the audience members, including the following:

---

### **Motivation**

Why might the school community be motivated to take the action you hope they will take? How can you leverage those motivations in your communication with them?

---

### **Barriers**

Why would the school community be unwilling or unable to take the action you hope they will take? How can you preempt or address their concerns?

**Consider what to communicate and what methods to use.** Targeted communications, open meetings, and Q&A sessions with staff and parents/guardians can ease the school community’s concerns about testing procedures. When developing communications, consider the following:

---

**Demonstrating the testing procedures** to students, staff, and parents/guardians so they can understand what they are consenting to

---

**Communicating the implications of any positive results** – including how the school community will be notified, the next steps, and the implications for students’ participation in school – in advance of program roll-out to set expectations

---

**Hosting open forums**, such as a virtual space to collectively discuss topics as a community (e.g., Facebook Groups) to understand and address school community members’ questions and concerns

A sample communications timeline is outlined in **Figure 17**. This is not exhaustive of all communications necessary, but may be used as a starting point for consideration.

## **EXAMPLES IN ACTION**

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In their interviews with schools, [RAND](#) found that the most effective messenger to communicate about the value of Covid-19 testing was sometimes a parent champion. Some schools designated certain parents to be those champions and equipped them with the tools they needed to address Covid-19 testing concerns from other community members, from answers to frequently asked questions to suggested phrases for one-on-one discussions.

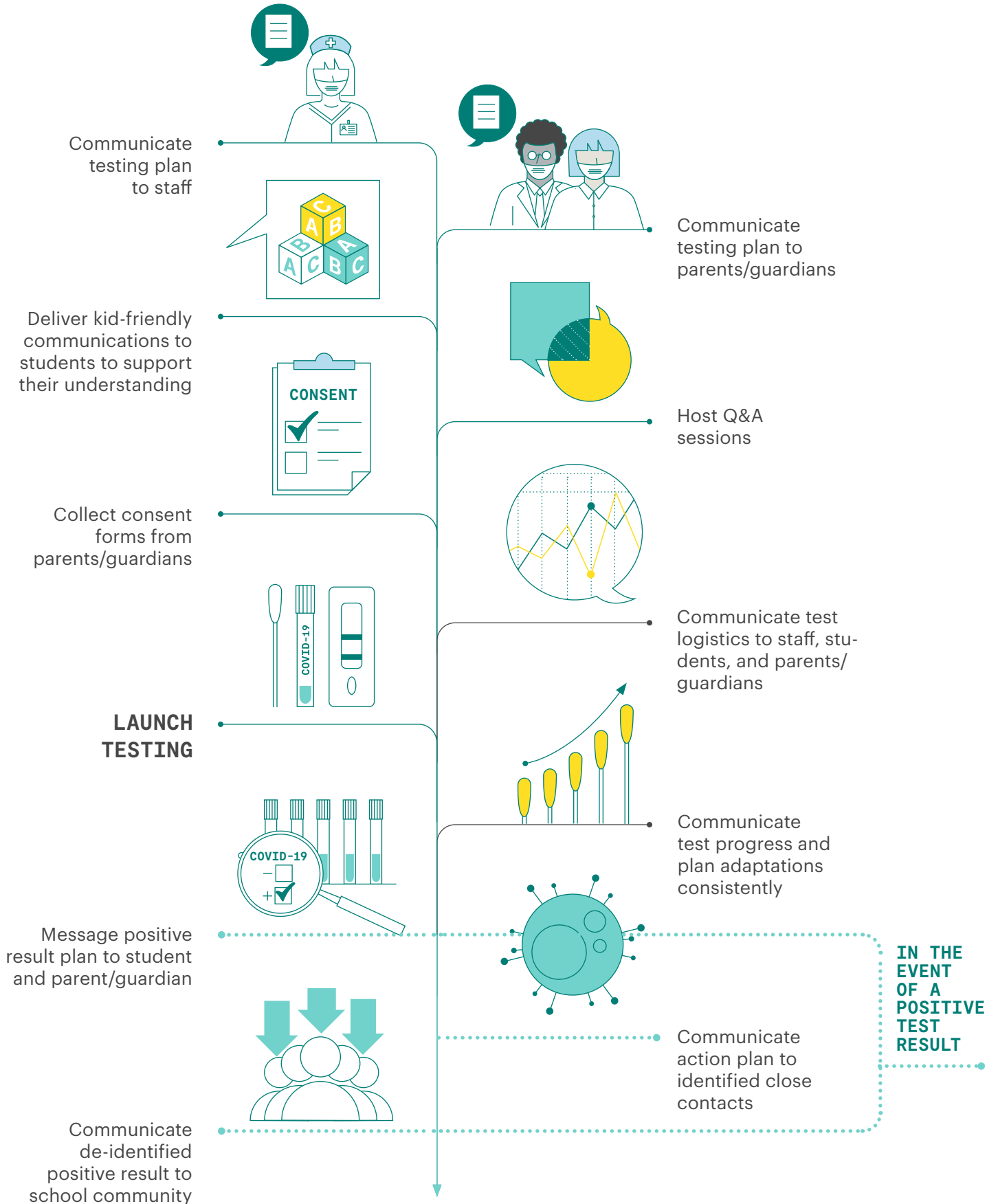
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To facilitate a deeper connection with health information, the Johns Hopkins Center for American Indian Health adapted the swiss cheese model of prevention to reflect a [woven basket of prevention](#) that conveys the same principals as the original model, but is designed to draw upon the long standing tradition of basket weaving in many American Indian communities.

---

The Mathematica [report](#) includes information about how Friendship Public Charter School in Washington, D.C. hosted several virtual forums, sent out e-newsletters and conducted pulse surveys to update the school community and to understand and address questions and concerns about testing. They also created a [video](#) that demonstrated the testing process at one of their schools. “Constant communication is key to a successful testing program. It’s a feedback loop, it’s how we get it right.”

**FIGURE 17 Sample Communications Timeline**



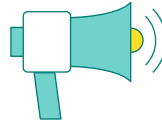
**Who should do the talking?** Consider the messengers of all communications and use school principals or other trusted voices in the school community to convey the testing strategy. These sources can add authenticity and validation but should not completely replace public health partners or healthcare providers, who are still widely respected. Where possible, encourage local messengers to appear alongside these experts, or translate their technical recommendations into day-to-day practice. Connect individual school messengers with other district communications leads to develop and deliver messages that are aligned across the district. Consider your community's experience with testing and tailor the level of detail in communications based on the community's comfort and familiarity with the process.

### EXAMPLES IN ACTION

In Tulsa, the executive director of the local health department was in frequent communication with the state Department of Health, the Department of Education, and the governor. According to the [Mathematica report](#), this helped ensure that local messaging and state messaging were mutually reinforcing.

In New York City, NY Public Schools distributed a [video](#) demonstrating testing procedures.

**Consider the message objective.** In addition to tailoring your language and tone based on the audience, you may also want to tailor the objective of your communication with each audience. The simple framework below lists three common objectives you may want to consider. The goal is to move your audience from awareness to action:



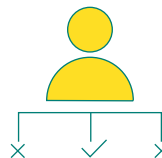
#### Awareness

Is your audience familiar with the type of tests the school is using, and the way that testing will work at school? If not, building awareness may be your first objective.



#### Attitude

If your audience is aware of the tests, do they believe in the test's value and trust the school to run the program adequately? If not, changing attitudes may be an important intermediary objective.



#### Action

Assuming they are aware and have a generally supportive attitude, is your audience motivated to take the action you need them to take, such as allowing their child to be tested?

For each objective, consider what you know about your audience's mindset. This can be based on personal experience and one-on-one conversations, or more formal audience research, such as focus groups and surveys.

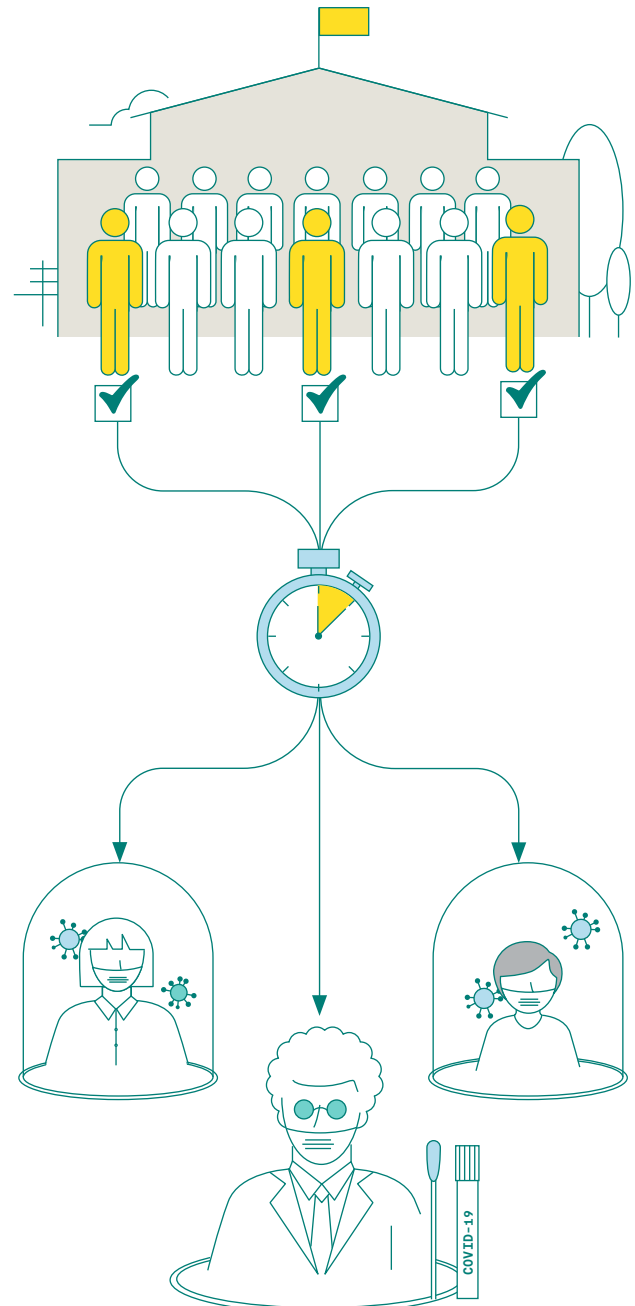
### 3.15 Develop a positive test response plan

Develop an action plan to quickly respond in the case of a positive test result. Depending on the type of test you are conducting, the positive test response plan may require different information.

Consider taking these steps, developed by the CDC, when responding to positive cases:

- 1. Immediately separate individuals** who test positive for Covid-19 in an identified isolation room/area with a point person assigned to supervise and communicate with parents.
- 2. Arrange for the individual to get safely home.**
- 3. If symptoms are severe, arrange transport to a health care facility** and alert health care facilities/staff in advance of transport that the person has been confirmed to have Covid-19.
- 4. Close off areas used by the sick individual.**
- 5. Advise the individual that they should contact their doctor** for care and not return to school until they meet the CDC's criteria to discontinue home isolation, which means doing one of the following:
  - Isolating for 10 days after symptoms first appear, provided symptoms are resolved after this time frame
  - Isolating for 10 days after positive test, if symptoms never appeared
  - If symptoms persist after 10 days, isolate until 24 hours is observed with no fever without the use of fever-reducing medications, and other symptoms of Covid-19 are improving

- 6. Notify local health officials, staff, and families** while maintaining confidentiality in accordance with relevant laws and regulations. Advise those who have had close contact with the individual (fellow classmates, teachers, staff members) to stay home, self-monitor for symptoms, and adhere to the CDC guidance for follow-up. Be mindful of adherence with the Americans with Disabilities Act (ADA), FERPA, and HIPAA regulations.



In the case of a positive result during **pooled sample testing**, your school can consider a few options for next steps:

---

**1. Begin deconvolution/reflex testing procedures for individuals included in the positive pool.**

Depending on the testing vendor's procedures, this may require recollecting samples from every individual in the pool, arranging for an off-site confirmatory test, or the lab may already have samples from the first collection to conduct individual diagnostic testing.

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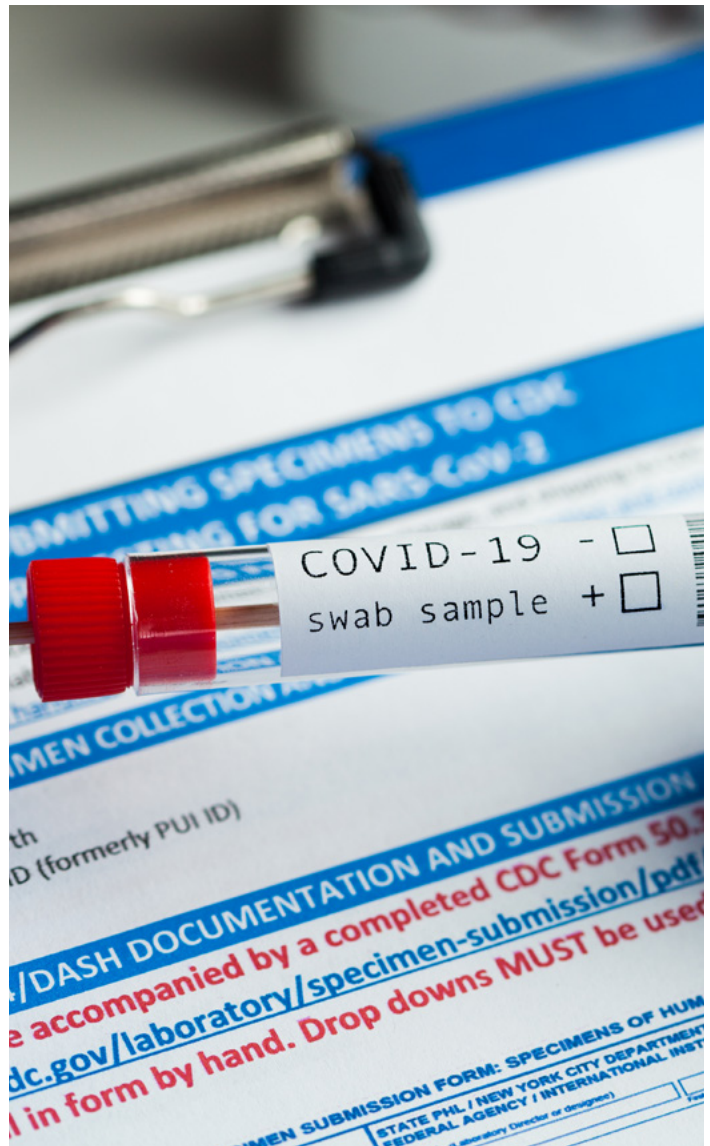
**2. Depending on local health official guidance, direct the entire pool of individuals, as well as any close contacts, to quarantine.**

---

**3. Once the positive individual(s) have been identified, schools should follow the guidance laid out above to continue quarantining the identified individual(s) and any close contacts while the negative individual(s) may return to school.**

The testing task force will manage the school's case and close contact list for the district or the school (whichever is most relevant), which serves as the primary reporting method to inform public health officials, staff, and parents/guardians about positive cases and close contacts. In Seattle, Washington, Public Health – Seattle & King County (PHSKC) developed an [example](#) of a close contact list that schools can use to track their confirmed and suspected cases internally and report them to their local public health authority. There also may be free versions of contact tracing apps. For example, a free symptom checking [app](#) can be tailored to include additional questions that can help with contact tracing.

Where possible, identify resources in the community that can help infected or quarantined individuals and their families and provide referrals. These might include referrals to follow up medical care or testing, information about rights to paid leave, and mental health resources.



### EXAMPLES IN ACTION

Several school districts have produced letter templates for positive case notification, such as those in [City of Pasadena, CA](#) and [Long Beach, CA](#)

The Minnesota Department of Health developed a [template letter](#) to notify families that their child has been identified as a close contact.



### 3.15.1 Determine strategy for messaging a positive test result

---

In the event of a positive test result, your first priority is to communicate that result to the individual and public health authorities, and to start notifying in-school close contacts (if applicable). However, it is also critical to communicate with the broader school community quickly and transparently. Providing continuous updates can demonstrate a commitment to ongoing information sharing and transparency.

For settings in which parents/guardians primarily complete drop-offs and pick-ups, posting signs on doors may be effective. In other settings, sending home letters or emailing a notification may also be effective. These notifications may alert parents/guardians to look for symptoms in their own children.

Consider including the following when notifying the school community about a positive case:

---

A list of precautionary measures that the school is taking

---

A list of testing sites should parents/guardians need to get themselves or a child tested

---

Information on the importance of continuing to follow risk mitigation measures (e.g., masks, hand hygiene, social distancing) and tips on how to adhere to these measures

---

Person to contact for more information

---

Links to relevant data

---

Letters communicated to those who have been identified as close contacts may include the following information:

---

Notification that they or their child may have had close contact with a member of the school community who tested positive for Covid-19

---

Guidance on what the individual needs to do immediately (e.g., quarantine for seven, 10, or 14 days, based on local health department guidance)

---

Information on any supportive services available while quarantining

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Symptoms to watch for during quarantine period

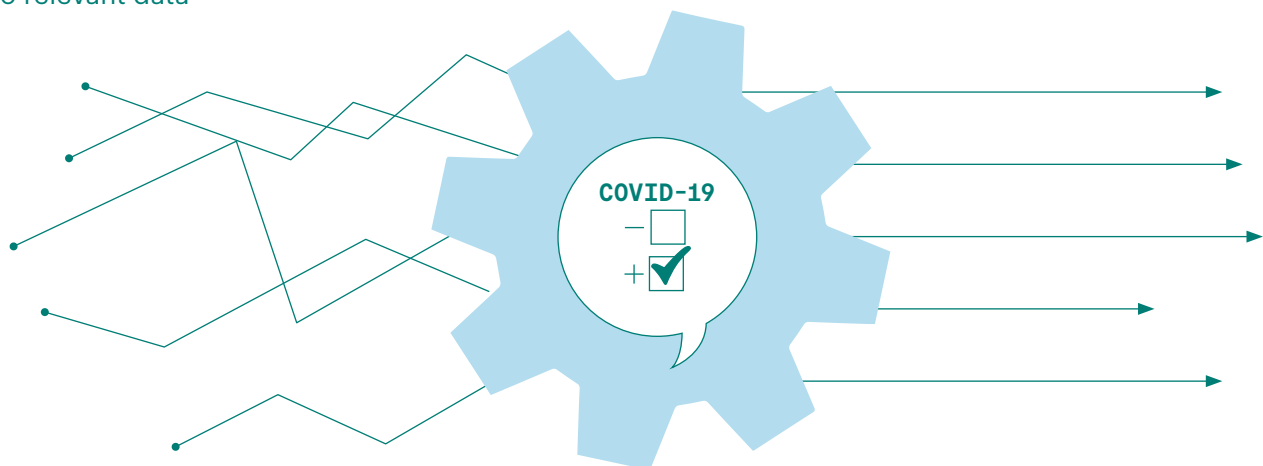
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Guidance on what the individual needs to do before they come back to school (e.g., have a negative PCR test on or after day five of quarantine)

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Any classroom or school closures required in response to the positive result(s)

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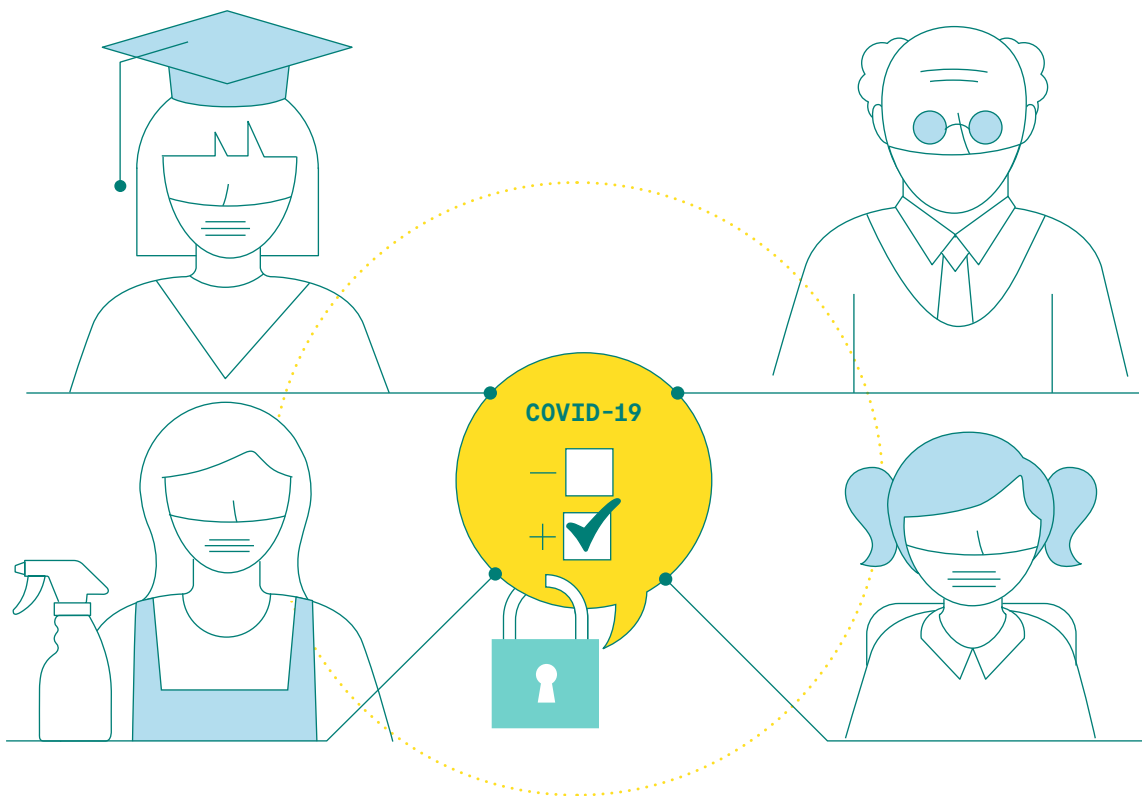
### 3.15.2 Maintain confidentiality in communications

Schools should maintain the confidentiality of the student(s) and staff who have tested positive, in accordance with the ADA, FERPA, and HIPAA regulations. Under the ADA, you can disclose the name of the employee to a public health agency when it learns the employee has Covid-19. In addition, you must store all Covid-19 test records and other medical information separately from the employee's personnel file.

Under both FERPA and HIPAA, the general rule is that a school can disclose a positive Covid-19 result if it is necessary to protect the health and safety of others, if you disclose the least amount of information possible. Most schools have interpreted this to mean allowing people who were potentially exposed by the individual with the positive result to know that they encountered

a person who tested positive, but not providing any identifying information of that person. In most cases, it is enough to report the fact that an individual in the school has a confirmed case of Covid-19, rather than specifically identifying the student who is infected. See the [FERPA & Coronavirus Disease 2019 \(Covid-19\) Frequently Asked Questions \(FAQs\)](#) for more detailed information.

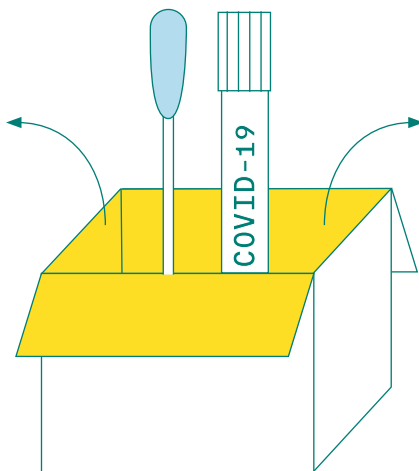
FERPA does not cover teachers, staff, or other adults working in the building (e.g., a coach), but state employment confidentiality regulations may include their own restrictions. School and school district leadership can use the information compiled by [The School Superintendent Association \(AASA\)](#) to help guide actions, and should plan to consult with legal counsel to confirm that communication templates are compliant with pertinent regulations.



# 4

## Roll out Testing Program

Once all plans have been defined, vendors and partnerships are in place, and the testing action plan has been developed, you are ready to launch test operations.



### 4.1 Conduct pre-launch preparations

#### 4.1.1 Onboard and train staff

In the weeks prior to testing, conduct onboarding sessions to prepare staff for operations roll out. Sessions should include instruction on the following topics:

##### 1. Proper use of PPE



##### 2. Operational workflow of the test site



##### 3. Collection, storage, and hazardous waste management procedures



##### 4. State guidelines and procedures related to Covid-19 (if applicable)



##### 5. Role-specific procedures and guidelines



## 4.1.2 In the days leading up to the launch

1. **Confirm that the school community, including staff, students, and families, are confident and comfortable** with the testing plan (see [Define Communications Plan](#) section for more information about messaging with the school community). Many schools have used surveys to assess comfort level and confidence in the plan prior to roll out.
2. **Confirm inventory on hand**, and ensure the inventory management plan is in place to monitor supply levels each day (see [Define Inventory Tracking and Test Storage Procedures](#) section).
3. **Where applicable, coordinate closely with testing vendors** to ensure scheduling, registration, data management, and results notification systems are ready for go-live.
4. **Consider stress testing operations** in the days leading up to go-live by conducting dry runs and final checks of all processes and systems.

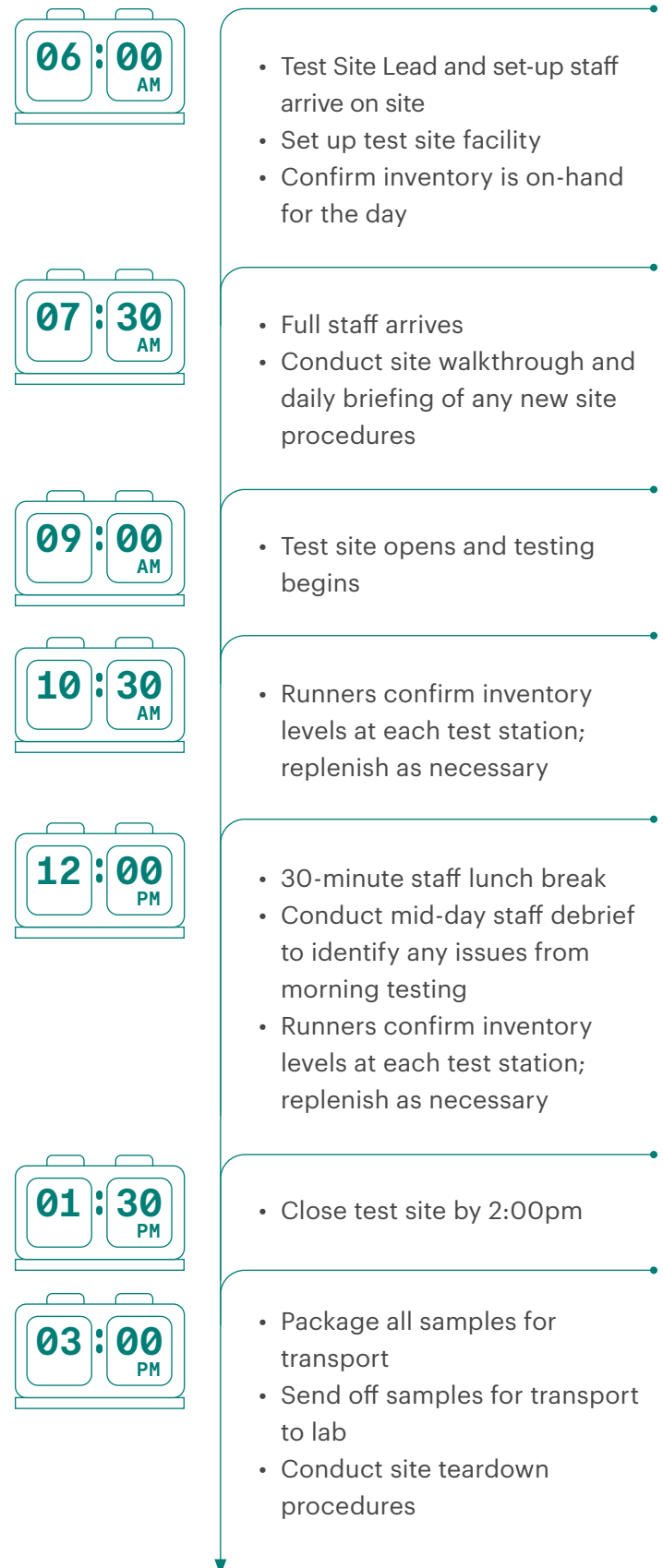
## 4.2 Activate test sites

This section gives examples of set-up and testing workflow on testing days. The specific tasks and order will vary depending on your situation. We encourage schools to share examples of their specific protocols with each other. For example, a protocol for self-collected saliva-based PCR testing developed by COVIDCheck Colorado can be found in the [Appendix](#).

### 4.2.1 Day-of testing timeline

Depending on the test type, facility design, and strategy deployed, a day-of testing operation may look similar to **Figure 18**.

FIGURE 18 Sample Day of Testing Timeline



#### 4.2.2 Test site readiness checklist

---

Test site leads or testing coordinators should establish daily routines and step-by-step plans for daily stand-up. The checklist in **Table 12** includes common pre-testing procedures at testing sites. These routines should include protecting the health of test site workers, validating sample pick-up times, and confirming availability of all necessary supplies.

You should print the test site readiness checklist and have it readily accessible to test site leads. It can be adapted to meet the needs of your school's specific operations.

#### 4.2.3 Day-of duties for staff

---

On the day of testing, walk staff through each role, including the following:

1. **Traffic flow from start to finish**
2. **Location of sample collection supplies and materials or individual antigen test kits**
3. **Collection and storage methods**
4. **Test processing and result reading, including timing specifications** (if on-site rapid tests are being used)
5. **Daily stand-up meeting prior to the start of each shift to discuss updates and assignments**

Staff should ensure that all necessary communication and signage is prominently displayed, areas are marked on the floor with tape or posts to indicate safe distancing, and sanitizing stations are well stocked. All job aids for staff should be printed and accessible, and test administrators should be aware of where they should be and when they are able to take breaks.

The Covid-19 school coordinator and test coordinator should both be at the testing site to answer any questions from faculty, staff, students, or parents/guardians that may arise during the testing event. The

vendor management representative should be on-call for any inventory related issues, and the facilities management representative should oversee that all surfaces are being disinfected per the CDC guidelines. Floater staff should manage the flow of students to answer student questions and enforce proper distancing measures as students wait to be tested.

#### 4.2.4 Execute test storage and transport procedures

---

Be sure to follow test procedures as defined during the planning phase. If you do not transport samples correctly or ensure they are processed within the vendor-specified allotted time (where applicable), the samples may become invalid.

#### 4.2.5 Close down operations

---

Use a breakdown checklist (**Table 13**) to ensure all sites are closed properly. This can be tailored to meet the needs of the specific operational procedures of your school's test site.



**TABLE 12 Test Site Readiness Checklist**

**PREP QUESTIONS**

**Logistics**



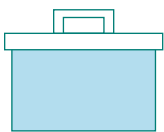
1. Is the test site location set up with appropriate social distancing measures and signage (if not self-administered tests in classroom)?
2. Is the patient workflow established and clearly communicated?
3. Are there staff in place to help guide students and faculty for testing?
4. If outside, is there an alternate location for inclement weather?
5. Is the testing site spacious and self-contained?
6. Is there staff available to adequately sanitize the test site as needed?

**Communications**



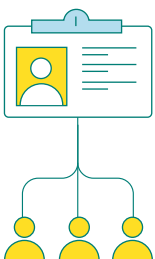
1. Are all test administrator staff trained in appropriate sample collection?
2. Are all staff aware of what times, when, and who will be tested as necessary?
3. Do all staff have access to adequate PPE as needed?
4. Do all staff understand their role in sample collection and/or test processing and reading?
5. Do staff collecting samples understand where to take samples once collected?
6. Is there a clear point of contact in case any samples are compromised or there are collection issues?
7. For rapid tests: Do staff processing tests understand the time specifications?
8. For rapid tests: Do staff reading results know where to enter the results?
9. Have parental consent forms been signed for all students?
10. Is there a different procedure to collect consent from students over 18?
11. Have students and parents been communicated to regarding scheduling tests and test availability?

**Site Storage**



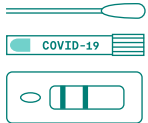
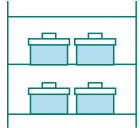


1. Is there a designated area for samples to be stored that meets storage requirements, if necessary?
2. Is there a plan and cadence in place for transporting samples to the lab, if necessary?
3. Is there a supply point of contact who will manage the relationship with the vendor to ensure adequate collection and/or test kits are available?
4. Is there a supply point of contact who will ensure PPE is ordered as needed (if PPE is not provided by vendor)?
5. Is there a standardized labeling convention for all samples collected?
6. Are there adequate biohazard waste bags, sanitizer, etc. available for collection sites?

**Reporting**



1. Are all staff trained on the reporting cadence and protocols for test results?
2. Is there a central roster to track all students that are being tested (i.e., attendance roster)?
3. Does the testing vendor or reporting entity have the appropriate contacts at state/county public health for positive results reporting?
4. Is the main school point of contact for positive test results aware of how they are receiving those results?
5. Is there a plan in place for how positive results will be reported to exposed faculty and students?
6. How are tests reported? Email? Text? Fax? Phone?

**TABLE 13 Test Site Teardown Checklist**

TEARDOWN QUESTION	
<p><b>Specimen Handling</b> (for molecular, off-site testing)</p> 	<ol style="list-style-type: none"> <li>1. Have all samples from each test taker been collected and properly packaged for transport?</li> <li>2. If applicable, have all samples been picked up by a courier? If not, have pick-up plans for the following day been validated?</li> <li>3. If applicable, have all samples scheduled for next-day pick-up been properly stored within the correct temperature range?</li> <li>4. If applicable, has the associated paperwork been prepared and transferred along with any corresponding samples?</li> </ol>
<p><b>Inventory Management</b></p> 	<ol style="list-style-type: none"> <li>1. Has the inventory of unused materials in supply bins, PPE for staff, and cleaning supplies for sanitation been counted? If any are below the reorder point, has the level been escalated?</li> <li>2. Have ink and paper levels remaining in the printer been recorded? If either are below the reorder point, has the supply point of contact been informed?</li> <li>3. Have all supplies been moved from open testing areas to storage?</li> </ol>
<p><b>Daily Cleaning and Waste Disposal</b></p> 	<ol style="list-style-type: none"> <li>1. Have all surfaces (e.g., tables, chairs, floor, door handles, bins/boxes, restroom) been sanitized and all waste is properly discarded?</li> <li>2. Have all potentially contaminated materials been placed in biohazard waste bins?</li> <li>3. Have all biohazard bags been double bagged and secured?</li> <li>4. Have all biohazard bags been discarded in designated collection bins?</li> <li>5. Have all secondary collection bins been closed unless waste is being added?</li> <li>6. Have all collection bin lids been fastened?</li> <li>7. Have all biohazard bins been wiped down with 10% bleach solution (or other EPA-approved solution such as Clorox wipes)?</li> <li>8. Have all surfaces been wiped down with a 10% bleach solution (or other EPA-approved solution such as Clorox wipes) once per hour (or more frequently, if needed)?</li> <li>9. Have all surfaces been wiped down at the end of the day before packing up and/or closing the site?</li> </ol>
<p><b>General Site Closedown</b></p> 	<ol style="list-style-type: none"> <li>1. Have you confirmed that all doors are locked, no water is running, and there are no electrical risks prior to final departure?</li> </ol>

# 5

## Monitor and Evaluate Effectiveness

### 5.1 Track progress toward milestones and objectives

As testing progresses, continuously track the metrics and objectives that the testing program was designed to meet. As mentioned in the [Define Testing Program Objectives and Metrics](#) section, by tracking progress, you will be able to quantify the effectiveness of the testing program and identify areas for concern. In order to strengthen confidence in school operations, deliver consistent communication to the community to provide transparency on progress and risks demonstrated by your collected data. Metrics that can attest to the health and safety of the learning environment will strengthen parents'/guardians' and other stakeholders' trust in the testing program's efficacy.

The testing task force should have a set timeline to review the metrics and establish an ongoing cadence to ensure the safety of the learning environment is maintained and should regularly report out their findings to the school community. Using the defined objectives and metrics, set thresholds that guide decision-making based on the most up-to-date data available. Thresholds may include increasing testing when community prevalence crosses a certain level, deploying certain protocols to extracurricular activities when test positivity rate meets a threshold, or shifting to a hybrid model when certain risk factors have been observed. These thresholds should be defined in cooperation with local health officials and may evolve as additional information is gathered throughout the pandemic.

Chiefs for Change offers school leaders frameworks for considering decision-making around school reopening decisions and models to use ([here on slide 11](#)).

#### EXAMPLES IN ACTION

Detailed in the [Mathematica report](#), the local health department in New Orleans worked closely with district leaders to communicate that reopening is about monitoring several metrics, as opposed to just one like the target positivity rate. "We're in constant communication with the community. We talk about the importance of tracking a set of metrics, not just one like positivity."

The National Governors Association compiled a [summary](#) of Covid-19 metric thresholds that states and districts across the country are using to support decision-making.



## 5.2 The road ahead

"Support and guidance through this challenging time in our community is essential." This sentiment, shared by a district lead in Louisville, has been echoed by educators and school leaders across the country. Undoubtedly, you will still face many challenges and surprises, even with good guidance and preparation.

As more schools are developing their own testing programs, many have found success in joining communities of practice or school networks to share best practices and ask questions to other leaders. Consider starting your own community of practice.

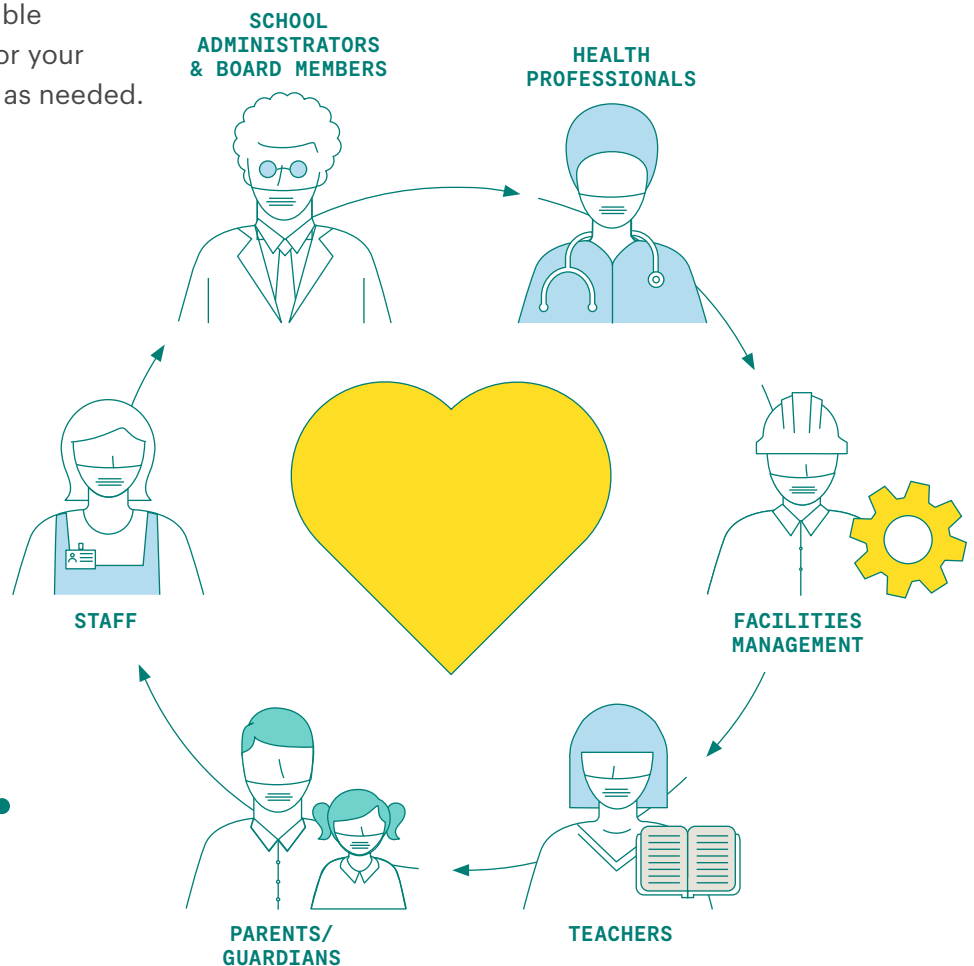
While this playbook highlights the key steps and some best practices and examples for developing a testing plan, it is by no means exhaustive. We continue to learn more about the complexity of navigating the Covid-19 pandemic daily, and school leaders continue to innovate with creative approaches to solving the problem of keeping their students, staff, and faculty safe. School leaders should use all available resources to develop the right solution for your school and continue to iterate upon that as needed.

### EXAMPLE IN ACTION

Right before their first testing event, a Friendship Public Charter School team member in Washington, D.C. shared with The Rockefeller Foundation, "I had this pitch perfect image of how everything would go across the sites and then, while cooking my turkey for Thanksgiving, the text messages started flying, and we went from 21, to 10, to six staff.

**"The call was really helpful, just to hear from the other cities about what they're doing, and the consent forms they're using. I don't know what we'd do without this learning consortium. Knowing what others are doing and how they're doing it is the most useful thing for us, like a learning academy."**

Public Health Department Executive Consultant, referring to a community of practice call led by The Rockefeller Foundation



# Appendix

TABLE 14 Referenced Links

The links below will take you to resources that can guide you through each step of testing.

CORRESPONDING PHASE	SECTION TITLE	RESOURCE
<b>Overview</b>	Executive Summary	<ul style="list-style-type: none"><li><a href="#">The Rockefeller Foundation: Risk Assessment and Testing Protocols for Reducing SARS-CoV-2 Transmission in K-12 Schools</a></li><li><a href="#">The Rockefeller Foundation: Taking Back Control: A Resetting of America’s Response to Covid-19</a></li><li><a href="#">Mathematica: Early Insights and Recommendations for Implementing Covid-19 Antigen Testing Programs in K-12 Schools</a></li><li><a href="#">RAND: Covid-19 Testing in K-12 Schools: Insights from Early Adopters</a></li></ul>
	The Benefits of Covid-19 Testing in A School Environment	<ul style="list-style-type: none"><li><a href="#">Journal of the American Medical Association (JAMA): AARS-CoV-2 Transmission from People Without Covid-19 Symptoms</a></li><li><a href="#">RAND: Covid-19 Testing in K-12 Schools: Insights from Early Adopters</a></li></ul>
<b>Phase 1: Lay the Groundwork</b>	1.1 Form a Testing Task Force	<ul style="list-style-type: none"><li><a href="#">Seattle &amp; King County (PHSKC): Close Contact List</a></li><li><a href="#">CDC: Cleaning and Disinfecting Facility</a></li><li><a href="#">CDC: Monitoring and Evaluation Checklist for K-12 Schools</a></li><li><a href="#">CDC: Evaluation Design</a></li><li><a href="#">Western Michigan University: Criteria for Selection of High-Performing Indicators</a></li></ul>
	1.2 Identify Partnerships	<ul style="list-style-type: none"><li><a href="#">USC Schaffer Center and Keck School of Medicine Study of Antigen Tests among First Responders and School-aged Children</a></li><li><a href="#">D.C. Friendship Public Charter School: Wellness During Covid-19 Page</a></li><li><a href="#">Crisis Prevention Institute: Guidance on Trauma-Informed Approach</a></li></ul>

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**Phase 2: Design  
Testing Program**

2.1 Assess Risk  
of Introduction  
of Infection to  
and Transmission  
Within Schools

- [COVIDActNow.org](https://www.covidactnow.org)
- [The Rockefeller Foundation: Risk Assessment and Testing Protocols for Reducing SARS-CoV-2 Transmission in K-12 Schools](#)

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2.4 Select  
Test Types  
and Collection  
Methods

- [Duke Margolis Center for Health Policy: From Development to Market: Understanding Covid-19 Testing and Its Challenges](#)
- [The Rockefeller Foundation: A National Decision Point: Effective Testing and Screening for Covid-19](#)
- [CDC: Interim Guidance for Antigen Testing](#)
- [CDC: Decision Tool for Confirmatory Testing](#)
- [CDC: Anterior Nasal Swab Collection Steps](#)
- [FDA: EUA Tracker](#)
- [Arizona State University: Covid-19 Testing Commons](#)
- [CDC: Overview of Covid-19 Testing](#)
- [FDA: Virtual Town Hall Transcript: Guidance on Covid-19 Diagnostic Tests](#)
- [FDA: FAQ on Covid-19 Test Uses](#)
- [Mathematica: Early Insights and Recommendations for Implementing a Covid-19 Antigen Testing Program in K-12 Schools](#)
- [RAND: Covid-19 Testing in K-12 Schools: Insights from Early Adopters](#)

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2.5 Consider  
Specific Groups

- [CDC Study of Covid-19 Trends among School-aged Children](#)

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2.6 Determine  
Number of  
Participating  
Students  
and Staff

- [New York Department of Health: Guidance for Covid-19 Testing in Schools](#)

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2.7 Outline Test  
Frequency and  
Schedule

- [The Rockefeller Foundation: Taking Back Control: A Resetting of America's Response to Covid-19](#)
- [When to Test Calculator](#)

**Phase 3: Prepare to Launch Testing Program**

3.1 Collect Consent for Testing Students	<ul style="list-style-type: none"><li>• <a href="#">State of Maine: Child Covid-19 Testing Consent Form from State of Maine</a></li><li>• <a href="#">Cincinnati Public Schools Collaboration: Covid-19 Testing Consent for Students</a></li><li>• <a href="#">Tacoma-Pierce County: Covid-19 Testing Consent for Students</a> <a href="#">Palm Beach County: Covid-19 Testing Consent for Students</a></li></ul>
3.2 Promote Participation and Mitigate Barriers	<ul style="list-style-type: none"><li>• <a href="#">US Department of Labor: Families First Coronavirus Response Act</a></li><li>• <a href="#">ACES Survey (Additional Resources)</a></li><li>• <a href="#">New York City Public Schools Communications: Video of Testing Process</a></li><li>• <a href="#">Equal Employment Opportunity Commission (EEOC): Guidance on Covid-19 Measures</a></li><li>• <a href="#">New York City Public Schools: Covid-19 Reopening Plans</a></li></ul>
3.3 Engage Testing Vendors	<ul style="list-style-type: none"><li>• <a href="#">California Association of Independent Schools: Covid-19 Shared Resources</a></li><li>• <a href="#">Arizona State University: Testing Commons – A One-Stop-Shop of information about Covid-19 Tests</a></li><li>• <a href="#">School District of Palm Beach County: District Dashboard</a></li><li>• <a href="#">Project Beacon: Reporting Platform</a></li><li>• <a href="#">Project ACE: IT Reporting App Video</a></li><li>• <a href="#">CDC: SimpleReport - Tool from CDC to Streamline Reporting</a></li></ul>
3.4 Set Up Your Testing Facility	<ul style="list-style-type: none"><li>• <a href="#">CO Department of Public Health &amp; Environment: Social Distancing Calculator</a></li><li>• <a href="#">Network for Regional Healthcare Improvement (NRHI): Design Considerations for Off-Site Covid-19 Testing Centers</a></li></ul>
3.7 Estimate Equipment and Supply Needs	<ul style="list-style-type: none"><li>• <a href="#">CDC: Guidance for PPE and Safety Supplies Needed at Covid-19 Testing Sites</a></li><li>• <a href="#">LA Department of Public Health: PPE Vendor List</a></li></ul>
3.8 Define Inventory Tracking and Test Storage Procedures	<ul style="list-style-type: none"><li>• <a href="#">Texas Education Agency: Covid-19 Testing Playbook</a></li></ul>

3.9 Set Protocols for Use and Disposal of PPE and Other Supplies	<ul style="list-style-type: none"> <li>• <a href="#">Texas Commission on Environmental Quality: Disposal Guidance for Covid-19 Rapid Testing Kits from Schools</a></li> <li>• <a href="#">CDC: Guidance on Covid-19 Waste Management</a></li> </ul>
3.11 Develop Data Management Plan	<ul style="list-style-type: none"> <li>• <a href="#">US Dept of Health and Human Services (HHS): HIPAA Compliance</a></li> <li>• <a href="#">US Department of Education: FERPA Guidance</a></li> </ul>
3.12 Understand Legal Considerations and Regulatory Environment	<ul style="list-style-type: none"> <li>• <a href="#">Pennsylvania Department of Health: CLIA Waiver Multiple Location Exemption in Pennsylvania</a></li> <li>• <a href="#">US Food and Drug Administration: Guidance on CLIA Categorizations</a></li> <li>• <a href="#">Centers for Medicare &amp; Medicaid Services (CMS): CLIA State Survey Agency Contacts</a></li> <li>• <a href="#">HHS: Reporting Requirements</a></li> <li>• <a href="#">CMS: How to obtain a CLIA Certificate of Waiver</a></li> <li>• <a href="#">CMS: CLIA Application Form CMS-116</a></li> <li>• <a href="#">CMS: Quick Start Guide to CMS CLIA Certification</a></li> <li>• <a href="#">HHS: PREP Act</a></li> </ul>
3.13 Develop Process for Reporting Results	<ul style="list-style-type: none"> <li>• <a href="#">HHS: Lab-based Testing Reporting Requirements</a></li> <li>• <a href="#">HHS: Non-lab Based Testing Reporting Requirements</a></li> <li>• <a href="#">CDC: Guidance for Reporting Results</a></li> <li>• <a href="#">Project Beacon: Reporting Example</a></li> </ul>
3.14 Define Communications Plan	<ul style="list-style-type: none"> <li>• <a href="#">Network for Regional Healthcare Improvement (NRHI): Guidance for Promoting Community Engagement</a></li> <li>• <a href="#">The Rockefeller Foundation: Message Handbook</a></li> <li>• <a href="#">Johns Hopkins Center for American Indian Health: Woven Basket Communication</a></li> <li>• <a href="#">DC Friendship Public Charter School: Video of Testing Procedures</a></li> <li>• <a href="#">New York City Public Schools: Video Demonstrating Testing Procedures</a></li> </ul>

3.15 Develop a Positive Test Response Plan

- [National Association of County and City Health Officials: Directory of Local Health Departments](#)
- [CDC: Close Contact Guidance](#)
- [Seattle & King County \(PHSKC\): Close Contact List](#)
- [DrOwl: Free Symptom Checking App](#)
- [DrOwl: Free School Screening and Monitoring Tool](#)
- [DrOwl: Free School Screening and Monitoring Tool \(Spanish\)](#)
- [Template for Positive Case Notification – Pasadena, CA](#)
- [Template for Positive Case Notification – Long Beach, CA](#)
- [Minnesota Department of Health: Close Contact Template Letter](#)
- [FERPA: Coronavirus Disease 2019 \(Covid-19\) Frequently Asked Questions \(FAQs\)](#)
- [AASA, The School Superintendent Association: Student Privacy During the Covid-19 Pandemic](#)

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**Phase 4: Roll Out Testing Program**

4.2 Activate Test Sites

- [COVIDCheck Colorado: Saliva Sample Collection Protocol](#)

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**Phase 5: Monitor and Evaluate Effectiveness**

5.1 Track Progress Toward Milestones and Objectives

- [Chiefs for Change & Council of Chief State School Officers \(CCSSO\): LEA Resource for Designing and Managing School Models During the Pandemic](#)
- [National Governors Association: Summary of Covid-19 Metric Thresholds](#)

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**Appendix**

Glossary of Common Terms

- [Food and Drug Administration \(FDA\)](#)
- [Centers for Disease Control \(CDC\)](#)

FIGURE 19 Individual Test Processing Example

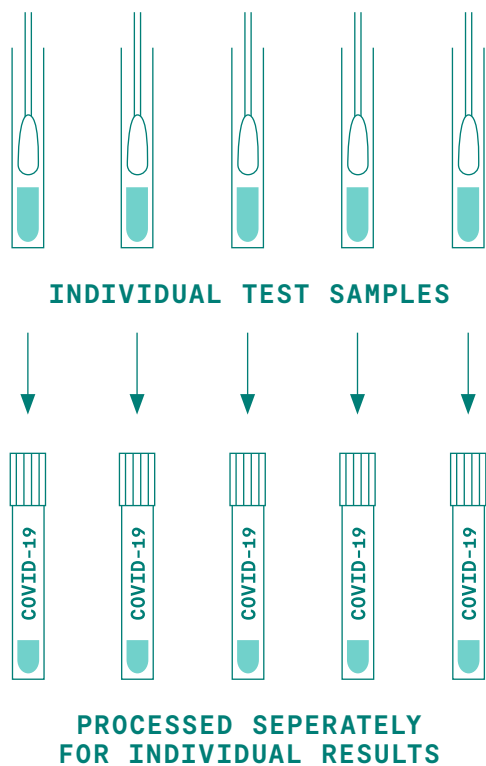
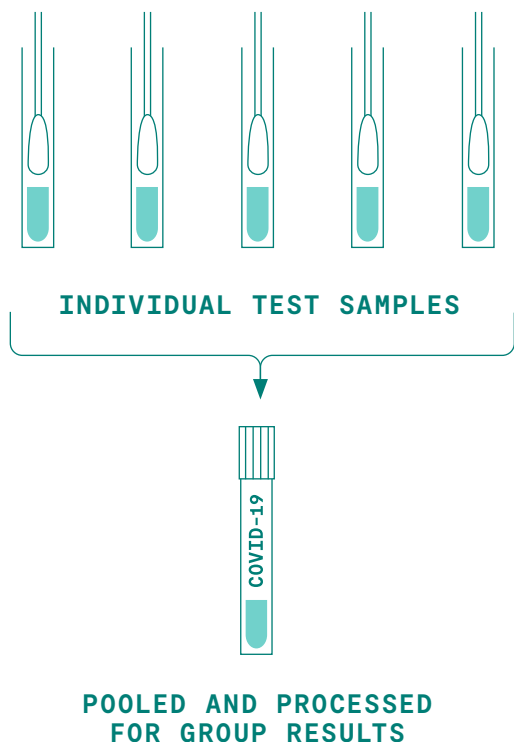


FIGURE 20 Pooled Test Processing Example



## Detail on pooling

Molecular tests may be available as individual or pooled samples, depending on resource availability and test vendor.

Experts consider individual sample testing (in **Figure 19**) the “conventional” method of sample testing that processes a sample from a single individual at a time (e.g., one nasal swab or saliva sample collected and tested individually). This is an ideal method for identifying SARS-CoV-2 occurrence at the individual level. Individual sample testing, however, is a more expensive and labor/supply intensive option than pooled testing. Testing vendors can conduct pooled sample molecular testing (seen in **Figure 20**) by collecting individuals’ samples and then combining all or part of the samples together into a batch to be tested together. Using this approach, labs process several tests in the amount of time that one individual sample would otherwise be processed. If a tested pool is negative, you can assume that all samples in the pool are negative. If a tested pool is positive or indeterminate, samples from all individuals in the pool would need to be retested to isolate the positive(s), a process called “deconvolution” or “reflex testing.”

While pooled testing has the benefit of being less expensive and resource-intensive than individual sample processing, it does have some drawbacks, including the following:

- 1. Deconvolution/reflex testing may increase the amount of time required for a result.** If individuals in the pool are required to be retested when there is a positive pool, identification and isolation of the positive individual may be delayed. However, some vendors' pooled testing process uses only a portion of the sample in the pooled processing, so they can use the remainder for re-running individual tests if necessary, thereby decreasing the turnaround time. There are also "matrix" testing strategies that mix samples into multiple pools that can then algorithmically determine which individual is infected.
- 2. There is greater risk of diluting individual samples** because pooled processing combines the samples for testing. In general, the more samples that are included in a pool, the higher likelihood of a false-negative result (i.e., a true positive is in the pool but, because it is diluted, the positive is not recognized and the pool is incorrectly determined to be negative). For that reason and to avoid inaccurate results, testing vendors must follow strict standards for how many samples to include in a single pool and related test processes while still returning reliable test results. Many vendors combine five samples into one pool, but some can go as high as 25. School districts should review vendor data and EUA specifications to make sure the test is being used in accordance with established data.
- 3. In areas of high Covid-19 prevalence, more pools are likely to be positive and require retesting to isolate positive individuals.**



## Glossary of Common Terms

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These terms have been aggregated from the CDC and the FDA and simplified for ease of reading. For more detailed explanations at the scientific and clinical level, refer to guidance from the CDC and the FDA.

TERM	DEFINITION
<b>Anterior Nasal Swab</b>	A shallow nasal swab that takes a sample of cells from the nasal walls.
<b>Antibody Test</b>	Antibody tests check your blood by looking for antibodies, which may tell you if you had a past infection with the virus that causes Covid-19.
<b>Antigen Test</b>	An antigen test is a diagnostic test suitable for point-of-care testing that directly detects the presence or absence of an antigen. It is used for the detection of SARS-CoV-2, the virus that causes Covid-19.
<b>Asymptomatic</b>	A person is asymptomatic if a person is not producing, marked by, or presenting with signs or symptoms of Covid-19 infection.
<b>CARES Act</b>	The Coronavirus Aid, Relief, and Economic Security Act, also known as the CARES Act, is a \$2.2 trillion economic stimulus bill signed March 27, 2020, in response to the economic fallout of the Covid-19 pandemic in the United States.
<b>CLIA</b>	The Clinical Laboratory Improvement Amendments (CLIA) regulate laboratory testing and require clinical laboratories to be certified by the Center for Medicare and Medicaid Services (CMS) before they can accept human samples for diagnostic testing.
<b>Close Contact</b>	Anyone who has been within six feet of a person infected with Covid-19 for at cumulative total of 15 minutes or more over a 24-hour period, or who has had unprotected direct contact with infectious secretions or excretions.
<b>Confirmatory Testing</b>	Confirmatory tests are additional diagnostic tests required to confirm the result of antigen tests.
<b>Confirmed Covid-19 Case</b>	Symptomatic or asymptomatic person who tests positive for Covid-19. A diagnostic test is required to detect the SARS-CoV-2 virus to confirm Covid-19 infection.
<b>Contact Tracing</b>	A disease control measure to identify anyone who had close contact with an infected person while they were contagious. The close contacts are informed of the potential exposure and advised to stay home (quarantine) for seven to 14 days.

<b>Covid-19 Tests</b>	A diagnostic test that determines if a person has Covid-19 at the time of testing by detecting the genetic material of the virus.
<b>Diagnostic Testing</b>	Tests that are used to diagnose symptomatic individuals and close contacts of those infected for clinical decision-making. The FDA determines diagnostic testing as any type of test used to determine if an individual has been infected (e.g., PCR, antigen, antibody).
<b>Emergency Use Authorization (EUA)</b>	The Food and Drug Administration is able to allow medical products or new uses of medical products that do not have full FDA approval in an emergency to diagnose, treat, or prevent serious or life-threatening diseases or conditions when there are no adequate, approved, or available alternatives. Tests that have EUA do not require a second test and have liability protection through the PREP Act.
<b>Exposure</b>	Person-to-person transmission of Covid-19 that happens primarily through close contact (within six feet of someone for about 15 minutes) and respiratory droplets from an infected person coughing, sneezing, or talking. May occur by close personal contact (e.g., shaking hands) or touching a contaminated object or surface and then touching mouth, nose, or eyes.
<b>FERPA</b>	The Family Educational Rights and Privacy Act of 1974 is a United States federal law that governs the access to educational information and records by public entities such as potential employers, publicly funded educational institutions, and foreign governments.
<b>HIPAA</b>	The Health Insurance Portability and Accountability Act of 1996 (HIPAA) is a federal law that required the creation of national standards to protect sensitive patient health information from being disclosed without the patient's consent or knowledge.
<b>Incubation Period</b>	The number of days between when a person is infected with Covid-19 and when they see symptoms or test positive for the infection. Estimated incubation period for Covid-19 is about five days (can range from two days to 14 days), from the time of exposure.
<b>Indeterminate Result</b>	Sometimes a test sample may not give a clear result. This is called an indeterminate result, which means that the lab cannot tell for sure if you have Covid-19 or not.
<b>Individual Sample Testing</b>	When a test administrator collects a single sample from a single individual at a time. Each sample is analyzed individually. This is considered the “conventional” method of sample testing.

<b>Isolation</b>	This happens when someone who is sick or tested positive for Covid-19 without symptoms is separated from others, even in their own home.
<b>Molecular Test</b>	This Covid-19 test detects genetic material of the virus. One example is using a lab technique called polymerase chain reaction (PCR).
<b>Nasopharyngeal Swab</b>	A long nasal swab that enters the nasopharynx (i.e., nasal cavity).
<b>Off-Label Testing</b>	Using a test in any way that does not comport exactly with the FDA label.
<b>Outbreak</b>	Two or more laboratory confirmed Covid-19 cases within 14 days and evidence of transmission in shared location. Different states and localities have different definitions of what constitutes an outbreak based upon community spread. You should contact your local health authority for the most specific definition to you.
<b>Physical Distancing</b>	Minimizing close contact with other people. For Covid-19, at least six feet (two meters) of space is suggested for appropriate physical distancing. There is some debate about whether a shorter distance might be acceptable in schools, but six feet remains the standard recommendation.
<b>Pooled Sample Testing</b>	When all or part of individuals' samples are combined into a batch to be processed together. This approach increases the number of individuals that can be tested using the same amount of resources.
<b>Population-Level Testing/Surveillance Testing</b>	In general, used to monitor for a community- or population-level occurrence, such as an infectious disease outbreak, or to characterize the occurrence once detected, such as looking at the incidence and prevalence of the occurrence. Surveillance testing is used to gain information at a population level, rather than an individual level, and results of surveillance testing can be returned in aggregate to the requesting institution. Used in a community to inform workplace, local, or regional policies.
<b>PPE</b>	Personal Protective Equipment; includes items such as gloves, masks, gowns, and face shields.
<b>PREP Act</b>	The Public Readiness and Emergency Preparedness Act, which provides immunity from liability for any loss caused, arising out of, relating to, or resulting from administration or use of countermeasures to diseases, threats and conditions determined in the Declaration to constitute a present or credible risk of a future public health emergency.

<b>Quarantine</b>	Separates and restricts the movement of someone who was exposed/in close contact with a person who has Covid-19.
<b>Random and Non-Random Sample Testing</b>	<p>Random Sample Testing: When every member of the sampled group has an equal chance of being tested. Random sample testing is used when you want to determine the population prevalence of the infection at a given point in time. An example of random sample might be testing everyone in a randomly selected classroom.</p> <p>Non-random Sample Testing: Not every member of the sampled group has an equal probability of being tested each tested period.</p>
<b>Reflex Testing</b>	The process of retesting each individual sample from the pool to identify the positive sample (can also be referred to as “deconvolution”). Used when a pooled sample test is determined to be positive, meaning one of the many samples represents an infected individual
<b>Saliva Sample</b>	Saliva sample testing is a technique used to collect samples of a person's saliva, or spit, to check for Covid-19.
<b>Screening Testing</b>	Routine testing of all individuals, including those without symptoms, with and without suspicion of exposure. This testing approach can help reduce infection spread by isolating potentially infected individuals faster to protect public health.
<b>Self-Administered Collection</b>	Sample collection by an individual of their own test sample. In some instances, this may not require a clinician to be present for collection of the sample.
<b>Symptomatic</b>	Person who is demonstrating characteristics common to Covid-19 infection, such as fever, cough, loss of taste and/or smell, shortness of breath, etc.
<b>Test Sensitivity</b>	The ability of a test to correctly identify those with the virus (true positive rate).
<b>Test Specificity</b>	The ability of the test to correctly identify those without the virus (true negative rate).

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**The Rockefeller Foundation is grateful** to the following people who have contributed to this report. Some may differ with aspects of it or have stressed other matters of primary focus. All have contributed with the greatest sense of shared purpose at this time of national need.

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