

ELC Reopening Schools Resource Guide

For Screening Testing to Reopen & Keep Schools Operating Safely

Purpose

State, local, and territorial health departments can use these resources to plan school-based COVID-19 testing programs and assess applications for quick and scalable COVID-19 test data collection, patient management, and result reporting in non-laboratory points of care.

Helpful Resources

Partner and Peer-to-Peer K-12 Resources	HHS & CDC Guidance
<ul style="list-style-type: none"> ● Rockefeller Foundation – Reopening Playbook, National Action Testing Program (NATP), and Checklist ● Shah Foundation – Massachusetts COVID Testing Site and peer-to-peer site ● Consortia for Improving Medicine with Innovation & Technology & MIT Institute for Data Systems and Society K-12 Playbook ● COVID-19 Community of Practice Webinars ● Children’s Hospital of Philadelphia – Increased emphasis on testing may help more school reopen safely ● Delaware Public Health & Department of Education – FAQs from joint antigen testing program ● Association of State and Territorial Health Officials School Health 101 ● National Association of School Boards of Education’s How Schools Work and How to Work with Schools ● National Association of Chronic Disease Director’s Guide for public health professionals working in the education sector ● Johns Hopkins University COVID-19 School Training and related materials 	<ul style="list-style-type: none"> ● Operational Strategy for K-12 Schools through Phased Prevention CDC ● Overview of Testing for SARS-CoV-2 (COVID-19) CDC <ul style="list-style-type: none"> ○ Antigen Testing CDC ○ Point-of-Care and Rapid Testing CDC ○ Self-Testing CDC ○ Pooling Procedures CDC ● How to Report COVID-19 Laboratory Data CDC ● Diagnostic Data & Reporting HHS.gov ● CDC Study on and policy considerations for PCR vs. Antigen Testing ● School Deployer Training Module CDC TRAIN ● Interim Guidance for Case Investigation and Contact Tracing in K-12 Schools CDC ● Interim Guidance for Case Investigation and Contact Tracing in Institutions of Higher Education CDC

Program Planning

Many of the resources above offer lessons learned and successful models of school-based COVID-19 testing to inform program planning and implementation. Program planning should consider and address some key distinctions and complexities specific to working within schools and school communities, such as:

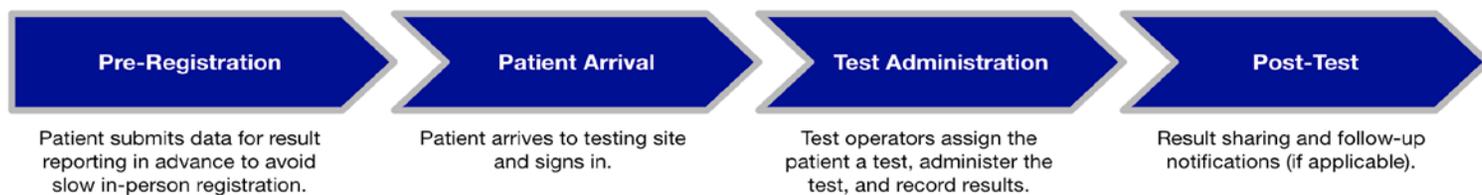
- **Stakeholder Engagement**– Collaboration with state and local departments of education, superintendents, and school stakeholders (from the design phase forward) will be essential to ensure COVID-19 testing programs have the built-in flexibility to meet district needs. School testing will appeal to different segments of the population for different reasons, and it is important to address these needs clearly in program communications to school stakeholders. Some communities want reassurance that schools are safe, and school testing offers an additional level of prevention, building confidence in the community. Other communities already feel safe participating in in-person school, and school COVID-19 testing, in combination with the continued implementation of [risk reduction and prevention measures](#), offers the opportunity to prevent outbreaks and maintain cherished activities—minimizing school and sports-related disruptions—by early detection and prevention of ongoing transmission.
- **Regulatory Guidance** – When considering the modality of COVID-19 testing and test type, ensure that programs or testing service providers or vendors use tests with [Food and Drug Administration \(FDA\) Emergency Use Authorization \(EUA\)](#) and that the tests are being administered in line their EUA guidance (e.g., prescription vs. non-prescription use, age band of the test, use in asymptomatic vs. symptomatic people, or supervision by a telehealth proctor vs. unobserved self-collected) and with the requisite Clinical Laboratory Improvement Amendments (CLIA) certificate.
- **Screening Testing vs. Surveillance Testing** – CDC currently recommends that school-based testing programs use a screening test approach (vs. surveillance testing). Screening tests are intended to identify infected people who are asymptomatic and do not have known, suspected, or reported exposure to SARS-CoV-2. Screening helps to identify infected individuals so that measures can be taken to prevent further transmission. In contrast, surveillance testing is performed on de-identified specimens, and thus, results are not linked to individual people and cannot be reported to individuals. Public health surveillance testing results cannot be used for individual decision-making. Frequency of screening testing can be adjusted, as needed, in alignment with CDC guidance in the [Operational Strategy for K-12 Schools through Phased Prevention](#). Screening testing in schools can be prioritized to populations at higher risks for exposure due to prolonged close contact, such as groups participating in athletic programs.
- **Targeted Sampling Design for Sentinel Surveillance** – When resources for more active surveillance are unavailable in the community, public health authorities may consider capturing a sample of testing results in selected communities, such as schools, as a useful adjunct to other reporting sources and to supplement disease reporting. A targeted or sentinel approach includes public health authorities recruiting a network of healthcare providers (potentially including schools), to regularly report specified health events, in which the goal of surveillance is information on disease trends rather than individual case investigation. For targeted sampling design or sentinel surveillance support, please contact ELC@cdc.gov.
- **Sample Collection** – Testing approaches and workflows may have different specimen collection needs. Considerations for sample collection techniques, logistics, and safety are available: [Specimen Collection for COVID-19 | CDC](#) and [Choosing Collection Methods | Shah Foundation](#).
- **Program Participation** – Most early adopters of school COVID-19 testing programs had voluntary, or “opt-in” programs. Some schools had mandatory policies to participate in school testing linked to the return to in-person school; however, this was more common in private or independent school settings. Little information about “opt-out” COVID-19 testing currently exists; however, this model has increased testing uptake for other diseases. Some districts incentivize participation in school testing programs, linking participation in athletic programs or extracurricular activities to participation in the school’s testing program. Incentives for individuals, classrooms, or families might increase participation in COVID-19 testing and improve the effectiveness of the program. There may be additional testing considerations for fully vaccinated people; please review the latest [CDC guidance](#).
 - **Technical Consideration:** *Promote use of opt-in models (e.g. linking in-person instruction to participation in screening testing) that are responsive to differing community preferences. Pilot and expand opt-out testing models for baseline testing when children initially return to school or after children return from holidays. Consider participation incentives to maximize compliance.*
- **Consent** – Participant consent is required for all COVID-19 testing programs. Testing service providers, laboratories, or other vendors will require specific personally identifiable information (PII) to populate test requisition forms. Streamline this process by requesting consent for all anticipated purposes up

front, including any appropriate Health Insurance Portability and Accountability Act (HIPAA) language on the consent form, to facilitate the sharing of information with third parties (e.g. testing service provider), and for test requisition and reporting purposes. Adapt processes when students shift to virtual learning or as needed to address parent and student needs.

- **Technical Consideration:** Streamline consent processes. School districts have had success with [a simple Google Doc consent form](#), followed by paper consent for children and families with digital barriers. Consider providing forms in a variety of languages. Consent is typically a one-time process covering ongoing program participation for the duration and evolution of the district’s school COVID-19 testing program and should address: HIPPA regulations; the sharing of test results with third party vendors (e.g. testing service providers); and, results reporting to state and local public health agencies.
- **Communication Plan** – The [Rockefeller Foundation](#) and the [Shah Family Foundation](#) have communication resources for school districts. A clear campaign message that resonates with the targeted community is essential. Messaging should be from the top down—starting with the superintendent, followed by the principals from each school, and coaches (if applicable). It is important to proactively address sticking points—clear communication is a key driver of participation.
- **Rolling Enrollment** – Following initial enrollment, many districts allow staff and students (not yet participating) to sign up with a set cutoff time (e.g., Thursday, 5:00 pm) for participation the following week. After the cutoff, anyone who consents will be included in the following week. This allows the COVID-19 testing service provider or vendor one business day to prepare test requisitions for the following week.
- **Subsequent management:** [Resources](#) for responding to cases and exposures of COVID-19 are available at case investigation and contact tracing efforts in [school and Institutes of Higher Education \(IHE\)](#) settings.

Testing process

The tools featured below help with administration, data collection, testing workflows, and reporting of COVID-19 test results. There are common elements in most testing programs that can be streamlined with available technical solutions. Please note that testing should not be performed without informed consent. CDC provides guidance on obtaining [consent for testing employees](#), which can be adapted to school-based COVID-19 testing. Patients typically register using a brief form that captures required patient reporting data. Increasingly, school testing programs are collecting this data during the consenting process. Their registration is paired with the test identifier and the site location. Either a trained COVID-19 test operator administers the test and submits the result, or a patient self-administers a test and submits the result. The application or tool sends the results to government and health authorities. The testing and reporting pathways will differ if a school-based testing program is partnering with a laboratory to process test results.



There are several nuances that policymakers and community leaders should consider when implementing applications and tools to help report tests in K-12 settings: the “patients” (students, teachers, and staff) are known in advance and tested serially; students often lack access to government identification cards

and depending on age, smartphones, so alternative identifiers and onsite access to registration processes should be considered; and, results must be sharable with parents or guardians authorized during the registration process. Additional consent forms may be necessary depending on state and school policies.

No-Cost Resources for Testing Program Workflow, Patient Management, and Result Reporting

High-priority features of COVID-19 testing program data collection tools include therapeutic guidance for positive results, reporting outputs in preferred format for health department ingestion (i.e. HL7), and step-by-step user training materials. Rollout coordinators should also consider the added benefit of apps that support computer vision or image capturing that reads pictures of test results to automate result logging and reduce human error.

Many tools are available and currently used by jurisdictions to assist with testing program workflow, patient management, and result reporting. This table summarizes the tools that may be available to support K-12 and other point-of-care testing programs, at no additional cost for licensing and use. This table does not include all available no-cost tools, and a multitude of tools, apps, and technical solutions are also available at a cost. This table highlights key features to consider for your local context when choosing a data collection tool. CDC does not evaluate all authorized COVID-19 tests and does not recommend any authorized COVID-19 test or data solution over another.

(Table is subject to change; this version is current as of 4/21/21)

Resource	Setting	Tests	Mode	Hosting and Security	Patient Registration	Result Recording	Data Reporting	Support	Scale of Adoption
SimpleReport	Any with reliable internet connection -for serial or one-time POC CLIA testing or self-administered testing (online only)	<ul style="list-style-type: none"> • IDNow • BinaxNOW • CUE • BD Veritor • Sofia/2 • LumiraDX • Access Bio • CareStart (New tests easily added) 	Mobile-Friendly Website	CDC Azure (CDC ATO)	Stored and retrieved via unique ID or name	Manually log onsite, built into patient management workflow Bulk patient upload available	To jurisdictions via CDC ReportStream	<ul style="list-style-type: none"> • Guided Setup • Online Training • Help Desk & live support 	<ul style="list-style-type: none"> • Schools in AZ, OH • Other facilities in FL, OH, ND, TX, and AZ, Guam
RapidTest ©	Any for serial or one-time POC CLIA testing or self-administered testing (online only)	<ul style="list-style-type: none"> • BinaxNOW • CUE 	Mobile-Friendly Website	State-Hosted AWS/Azure (varies) STRAC AWS (contracted)	Stored and retrieved via scannable patient QR code. Can scan a driver's license or complete a web form to register	Scan test QR code and manually log result	To jurisdictions via CDC ReportStream	<ul style="list-style-type: none"> • Self-Service, Guided, or Delivered Setup • Online Training • Help desk & live support depends on hosting 	<ul style="list-style-type: none"> • Schools in PA, WA, and TX • Other facilities in TX
NHSN – COVID-19 Point of Care	Exclusively for Long-Term Care facility	<ul style="list-style-type: none"> • IDNow • Accula 	Desktop Website	CDC-Hosted NHSN (CDC ATO)	Stored and retrieved via unique ID or name	Onsite for test administrator or by group	To jurisdictions via APHL AIMS	<ul style="list-style-type: none"> • Ready in locations using NHSN If not in use:	<ul style="list-style-type: none"> • In use in facilities all 50 states

Test Reporting Tool	COVID-19 testing	<ul style="list-style-type: none"> • Advaita RapCov • Assure • BinaxNOW • Biofire • CareStart • Cepheid LDT • Cepheid Xpert • Cobas • CUE • Lucira • Luminostics Clip • LumiraDX • Midasport • QuickVue • Sofia • BD Veritor 		APHL AIMS Platform (AWS)		administrator either manually or uploaded manually by CSV or automatically via CSV or HL7 file format		<ul style="list-style-type: none"> • Guided Setup • Online Training • Help Desk & live support 	<ul style="list-style-type: none"> • More than 17,800 long-term care facilities are enrolled in NHSN.
SAFE Health	Non-lab or CLIA environments (online only)	<ul style="list-style-type: none"> • BinaxNOW • CareStart • Flowflex • CUE • QuickVue • Sophia 	Mobile App or website	Abbott Azure (TBD)	In-app form. Stored and retrieved via scannable patient QR code or patient email and DOB.	Scan test and patient QR code and manually log result	To jurisdictions via APHL AIMS	<ul style="list-style-type: none"> • Guided app setup • Online training • Help desk & live support 	<ul style="list-style-type: none"> • Not disclosed
NAVICA™	Any CLIA, non-lab, or at-home testing (online & offline)	<ul style="list-style-type: none"> • BinaxNOW • IDNow (pilot) 	Mobile App or website	SAFE Health AWS (HITRUST)	Scan a driver's license or submit a web form to register and create an ID	Scan test QR code and results with computer vision, or scan test code and manually enter results	To jurisdictions via APHL AIMS	<ul style="list-style-type: none"> • Self-service app setup • In-app training • Multi-lingual help desk and user support for tier 1 customers. 	<ul style="list-style-type: none"> • Schools in CA and universities in AZ • Nationwide employers based out of GA and MN
Ellume©	At-home or non-lab serial testing (online/offline)	<ul style="list-style-type: none"> • Ellume Home Test 	Mobile App	Ellume Cloud (TBD)	In-app form during account setup.	Bluetooth analyzer sends to the app and displays results on-screen	To jurisdictions via Lifepoint	<ul style="list-style-type: none"> • Self-service app setup • In-app training 	<ul style="list-style-type: none"> • Planned: Universities in GA, FL, CT, and CA • Non-k-12 facilities and at-home nationwide.
ImageMover MD©	Non-lab serial testing (online)	<ul style="list-style-type: none"> • BD Veritor 	Mobile app	ImageMover AWS (Multi-tenant or VPC)	Roster uploading, or license / passport scan and submit in-app form to create patient record	Enter test cartridge into BD Veritor device, then manually log displayed result in the app.	To jurisdictions via Lifepoint	<ul style="list-style-type: none"> • Delivered app setup • 24/7 help desk support 	<ul style="list-style-type: none"> • Active users across the country, including undisclosed sports teams,

									higher ed, and corporations
Manual Collection Methods (i.e. National Flat File – CSV)	For any COVID-19 test reporting Can be used offline.	Any tests, including: <ul style="list-style-type: none"> ● PCR tests ● IDNow ● BinaxNOW ● CUE ● BD Veritor ● Sofia/2 ● LumiraDX ● Access Bio CareStart (New tests easily added)	Excel	N/A	Manual	Manual	Upload to APHL AIMS , routed to jurisdictions	<ul style="list-style-type: none"> ● Self-service ● Online Training ● Help Desk & live support 	<ul style="list-style-type: none"> ● Many jurisdictions ● Many facilities
State-specific Solutions	Additional resources developed or in use by jurisdictions to meet COVID-19 testing program needs may be sharable through peer-to-peer or open-sourcing opportunities. These may include state apps, websites, portals, and surveillance systems where user interface, online/offline capability, and registration and reporting processes and systems vary. If you have a solution or tool you would like to open-source or promote, please contact ELC@cdc.gov								