Project SafeSchools

COVID-19 School Testing Toolkit

Johns Hopkins Center for American Indian Health

SAFE SCHOOLS
KEEPING SCHOOLS SAFE FROM COVID-19

JOHNS HOPKINS
CENTER FOR AMERICAN INDIAN HEALTH

July 2021

The development of this toolkit was supported by a generous grant from the RF Catalytic Capital, Inc. and support from the Rockefeller Foundation. We are grateful to our community partners and collaborators for their efforts and hope this resource can be helpful to schools going forward.

Table of Contents

Introduction

More than 50 million children have been affected by COVID-19-related school closures across the United States since the onset of the SARS-CoV-2 pandemic in early 2020. Nearly 70% of schools serving Native students were conducting virtual learning during the pandemic.[1] Current research suggests that keeping schools closed may lead to worse health outcomes for children as they miss health screenings, lose nutritional support provided by schools, suffer mental health challenges, and lose opportunities to learn and interact with their peers.[2]

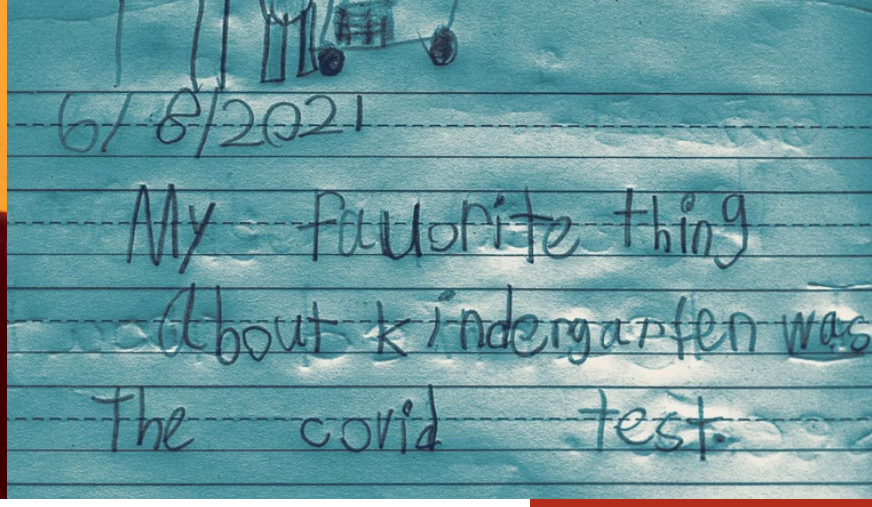
Risk Assessment of COVID-19 Transmission in Schools

There are 3 main COVID-19 risks schools must consider:

1. **The chance of an infected person attending school.** This risk is dependent on the prevalence of COVID-19 in the community. If prevalence is high, it is more likely that someone coming to school will have been infected with COVID-19.

2. **The chance that an infected person (often called an index case) will infect others while at school.** This risk is known as in-school transmission and is dependent on numerous factors, including how infectious the index case is and how staff and students interact in the building. If infection control and mitigation plans are properly followed, COVID-19 is less likely to spread.

3. **The consequences of the virus spreading throughout the school setting.** This risk is based on whether there are medically vulnerable and/or many unvaccinated individuals in the school community broadly. Schools must consider and balance the impact of COVID-19 infections on high-risk individuals as they implement plans.



Mitigation Strategies in Schools

Without prevention measures in place, schools are considered a high-risk environment for the spread of COVID-19 because there are many people in close proximity in an indoor environment with shared objects and commonly touched surfaces.[2] Even in settings with high levels of community spread, evidence suggests that schools can remain open and achieve low to near zero transmission rates if they implement robust infection control and mitigation strategies.[3,4] Safe re-opening of schools can play an important role in mitigating the negative socio-emotional and educational impacts of COVID-19 on Native children, their families, and their communities.[1] **This toolkit has been designed to assist schools in choosing and implementing a COVID-19 testing strategy** so that students, faculty, and staff can remain safe and healthy when returning to in-person education.

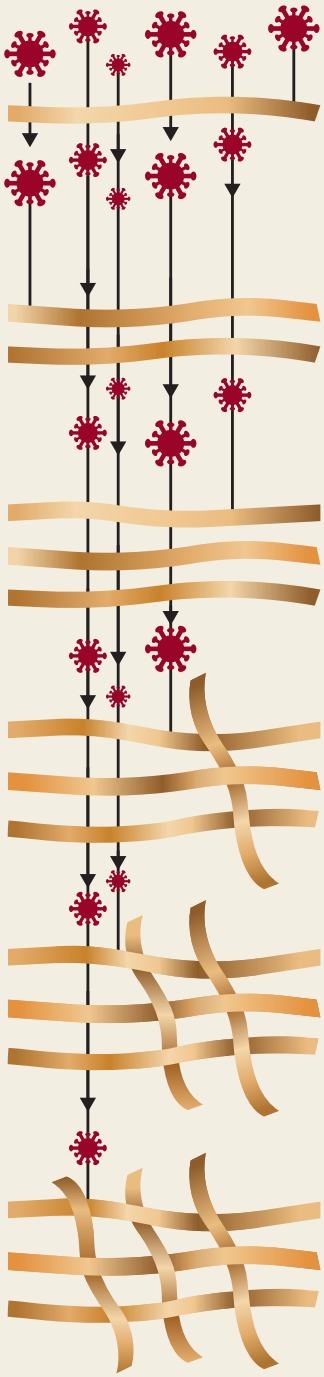
Mitigation strategies such as universal mask protocols, physical distancing (3-6 feet), improved ventilation, and cohorting of students have been shown to help reduce transmission of the virus in schools.[5] Even with these mitigation strategies in place, cases can still be present on campus, including asymptomatic cases. Studies have shown that between 41-57% of children infected with COVID-19 are asymptomatic.[3] The only way to prevent this “silent spread” is to conduct testing. Testing at schools also provides an opportunity for tracking the virus over time as there are large numbers of individuals in congregate settings. Furthermore, the government has invested a large amount of money in rolling out COVID-19 testing in schools as part of the pandemic response package.[6]

Moreover, while vaccine uptake has been robust in Native communities, the delay in vaccination approvals for younger students means that testing can provide another layer of protection. Finally, families and schools have dealt with so much over the last year and a half – knowing where COVID-19 is by testing all those in the building can help provide reassurance and get everyone back to teaching, learning, and having fun.

Figure 1: Weaving a Basket with Six Safety Strategies for COVID-19

School safety steps are like a woven basket: no single step will stop the virus by itself, but if a combination of different steps is utilized, like woven strands, schools can be re-opened safely. Figure 1 shows how each layer of prevention ensures a safer environment for learning. Schools must continue to dedicate effort and resources into mitigation strategies. Implementation of a testing program cannot and should not distract from other infection prevention measures.[7]

Think of these safety steps like a women basket. No single step will stop the virus by itself. But if we combine different steps like we combine woven strands, we can make a big difference in making our communities safe.



Mask Usage

Correct use of face masks at all times when around people who do not live in your household.

Physical Distancing

3-6 feet apart at all times when around people who do not live in your household.

Frequent Hand-washing

Regular and correct washing of hands with soap and water or hand sanitizer.

Improved Ventilation

Bringing in outdoor air and filtering/cleaning air.

Contact Tracing

Your local health department's efforts to track new infections.

Frequent Testing

Testing of all people in the school building 1X or 2X a week can help detect cases before they spread.

Testing for COVID-19 as a Mitigation Strategy for In-Person Learning

Weekly testing of all students, teachers, and school staff can reduce in-school transmission.[7] Most school testing programs have chosen to allow their students, teachers, and staff to opt in to testing rather than making testing mandatory. Required testing may be a more comprehensive approach for mitigation efforts, as some parents and school staff may not be eager to undergo testing.[7] Generating buy in from all stakeholders is critically important to any testing program.

It is important for school leadership to consider how a testing program will impact in-person learning. In generally, more frequent screening leads to fewer in-person learning days, as more infections are detected.[7] This has important implications for control of the virus and protection for the community but may be disruptive for students and schools. Schools also must allocate time and space for testing which may be disruptive initially.[7] However, this process will likely become easier over time as testing becomes routine to students and school staff.

A positive COVID-19 test will likely require an entire class, or cohort, of students and staff, to isolate at home until confirmatory testing has been completed.[7] It is critical that students, parents, teachers, and school staff understand upfront that students will have to temporarily adjust under these circumstances. For this reason, it is important that schools work with local public health partners to advise on when students may return to the classroom safely in the case of a positive test.

Testing Permission Terminology

Opt-in: Only people who sign their consent forms will be tested.

Opt-out: All will be tested unless someone asks not to be.

Mandatory: Attendance or participation is only allowed if individuals agree to be tested.

COVID-19 Testing Strategies for Schools

Testing Strategies

There are 3 testing strategies that schools may consider:

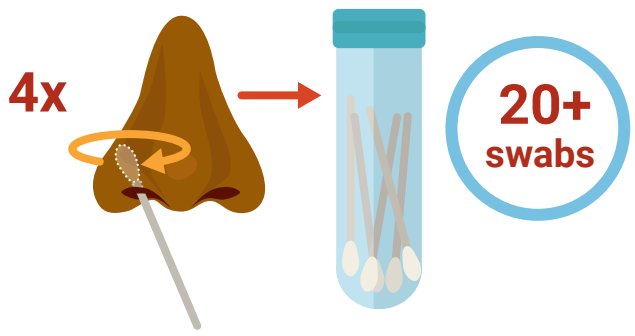
1. **Diagnostic testing** detects current infection in individuals who are symptomatic or may have been exposed to COVID-19. Tests can be collected at home, school, or other setting, and are processed in a laboratory. Some schools have used diagnostic testing as their primary testing strategy. Other schools use diagnostic tests to confirm results obtained from a screening approach.

2. **Screening testing** is used to test individuals who are seemingly uninfected with COVID-19. The goal is to identify unknown cases and isolate infected individuals from healthy individuals to prevent the "silent spread" of the virus. Each individual test is resulted quickly. When implemented this is often done once or twice a week with staff, as resources to implement are more intensive.

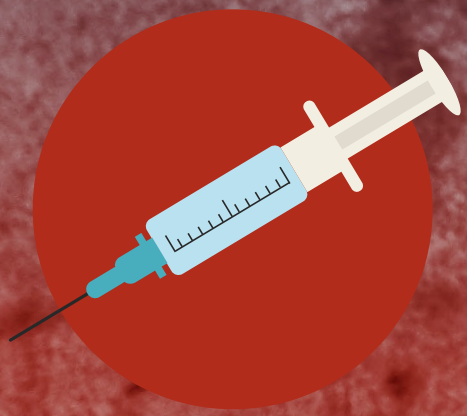
3. **Pooled surveillance testing** combines samples from groups of people into a single specimen for analysis. This allows many swabs to be analyzed with fewer resources. Pools are often grouped per classroom. If a positive pool is identified, all individuals from the pool should get a reflexive diagnostic test. Schools should work in partnership with the local public health authority to provide access to diagnostic testing. Some schools are using rapid diagnostic tests on sight to identify the positive cases after a pool tests positive.

Regardless of the approach, it is critical to notify local public health authorities if a test or pool is positive so that isolation, contact tracing, and quarantine can occur as fast as possible.

POOLED SURVEILLANCE TESTING



COVID-19 vaccinations are being rapidly deployed throughout the United States. The CDC currently recommends that vaccinated people may be exempted from screening testing programs. However, schools may decide to continue to test vaccinated individuals, depending on local epidemiology (e.g., transmission rates and incidence of breakthrough COVID-19 disease among vaccinated individuals). Vaccinated individuals should follow all guidance provided by the local public health authority and/or CDC.



Types of COVID-19 Tests

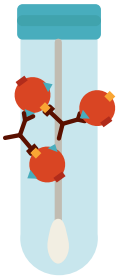
There are two broad categories of COVID-19 tests: 1) Tests that detect the virus and are used to diagnose active infection and; 2) Tests that detect antibodies to the virus and are used to assess past infection or vaccination (serology). In this toolkit, we will only focus on the first category of tests that test for active infections. These fall into two types:

1.

Molecular tests

Molecular tests (https://www.cdc.gov/coronavirus/2019-ncov/hcp/testing-overview.html) look for the presence of the virus's genetic material. They are often referred to as nucleic acid amplification tests (NAATs) or "PCR" tests. Molecular tests are generally more expensive than antigen tests, take longer to process, and are not routinely collected or analyzed outside of a lab, hospital, or clinic. However, they can be useful in the pooling approach described above, as they are highly sensitive and can catch very small amounts of the virus in a sample.

2.



Antigen tests

Antigen tests check for certain viral proteins. These are what is known as "rapid tests" and also sometimes referred to as Point-Of-Care tests ("POC" tests). Antigen tests can be collected and analyzed anywhere including at a school. However, while some tests have been approved for at home use and do not need a CLIA, some antigen tests require the school obtain a CLIA certificate of waiver (See Appendix A). Antigen tests performed on asymptomatic people are sometimes less accurate than molecular tests. However, it is acceptable to balance a slightly less accurate test with more frequent testing. If antigen tests are performed more than once a week, they are more likely to detect a positive COVID-19 infection.[7]

Types of Sample Collection

Although many people think collecting COVID-19 samples through swabbing is difficult and can only be done by a medical professional, self-swabbing techniques have been developed and validated for individuals to collect their own specimens.

There are 3 options for sample collection:

Self-Swab

The individual administers the swab to themselves. If using individual screening tests, after the nose swab is complete, the individual will give the specimen to the nurse or testing coordinator for analysis. For pooled tests, the individual places the swab in the collective test-tube. This may be most appropriate for adults and older children, although children as young as five have been taught to self-swab successfully. For a step by step guide on how to self-swab see Figure 2.

Assisted Swab

The nurse or testing coordinator can assist with swab collection as needed.

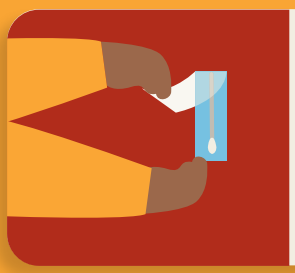
Administered Swab

The nurse or testing coordinator can perform the swab on the individual being tested. This may be the best option for very young children, or for those who are uncomfortable collecting their own specimen.

Figure 2: Self-Swab

Step 1

Apply hand sanitizer with at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry.



Step 2

Remove the swab from the container, being careful not to touch the soft end, which is the absorbent tip.

Step 3

Insert the entire absorbent tip of the swab into your nostril, but do not insert the swab more than 3/4 of an inch (1.5 cm) into your nose.

Step 4

Slowly rotate the swab in a circular path against the inside of your nostril at least 4 times for a total of 15 seconds. Be sure to collect any nasal drainage that may be present on the swab.

Step 5

Gently remove the swab.

Step 6

Using the same swab, repeat steps 4-6 in your other nostril.

Planning for Testing Implementation

This toolkit was developed to guide educational facilities on how to implement COVID-19 surveillance testing. While there is no one correct way to implement school-based testing, this toolkit was developed to allow schools to adapt to the needs of their school community. The resources and tools gathered here are designed to guide on testing administration and provide best practices from lessons learned. A full testing checklist can be found in Appendix B.

Forming the Testing Team

Having dedicated people from the school to lead the testing initiative will be helpful to ensure the program is successful. These are not full-time jobs, but some suggested roles and responsibilities are as follows:

Table 1. Testing team

Role	Responsibilities	Example Staff
Testing Champion	• Communicates with local public health authority, superintendent, and school board • Notified of positive cases and reports to public health authority • Distributes COVID-19 resources to schools • Works with government to ensure compliance with regulations and to procure supplies	Chief of staff, assistant superintendent, other appointed leader
Testing Coordinator	• Oversees implementation of testing • Distributes testing supplies to test takers • Ensures cohort lists are up to date and updates student roster as students are tested • Reports cases to the testing champion • Keeps track of necessary data	School nurse, school secretary, other staff at school
Testing Assistants	• Assists the coordinator with responsibilities as needed	Any staff
Facilities Manager	• Maintains COVID-19 cleaning and disinfecting plans per the CDC and Department of Health guidelines	Facilities lead
Data Manager	• Ensures all reporting requirements for the data are met	Any staff

Within any testing program, partnerships are key. Schools should work closely with a local health department representative or appointed contact at the local service unit. Not only should these agencies be made aware of cases to conduct contact tracing, but they can be of tremendous help to a school to support the school in adapting to changing guidelines and ensuring safety for all.

Regular meetings of those responsible for leading the testing initiative at a school are recommended. For example, in one school district there is a weekly call with all school leaders, a representative from the local public health authority, and other partners to discuss logistics, ask questions, and ensure tasks are done in a timely manner.

Of note, several schools that developed COVID-19 testing pilot programs reported that initiating a testing program was a complex and unfamiliar task.[7] Although any adult can perform testing and analysis after completing the relevant training, many school staff initially reported feeling uncomfortable with implementing and performing COVID-19 tests.[7] School administrators, staff, and teachers have put enormous effort into the many transitions that schools have faced during the pandemic. Implementing a testing program will be a challenge for schools, and staff will likely need extra support and additional resources to successfully navigate this new terrain.

Testing Schedule Considerations: Location, Time, and Confidentiality

Before a testing program begins, school leadership should think carefully about how to build testing into the school day to minimize disruptions in learning.

Location

Some schools have chosen to test students in the classroom, other have chosen a large space like a school cafeteria or gym, and others have opted to test outside. It is important to keep in mind that students should be 3-6 feet apart during specimen collection. However, collection of lower nasal swabs or mid-turbinate nasal swabs are not considered "aerosolizing procedures," meaning the risk of contamination to others is considered no larger than the risk presented when students temporarily removing their masks to eat lunch in the same room.

Time

Ideally, screening tests would be conducted before students or staff begin class for the day, but this can be challenging for schools to implement on site given the large numbers of students arriving at the same time. Some schools have used rapid antigen screening tests at home for personnel with a required documented negative test to come to work to overcome this challenge. Other schools have opted to test students at the end of the school day, as part of dismissal, rather than at the beginning. Screening testing usually takes 60 minutes for a classroom of 20 students, not including the time it takes to get to a testing location or the time to await results. Pooled testing can be implemented at any time during the day and usually takes 5-10 minutes for a classroom of 20 students.

Confidentiality

Maintaining confidentiality is important in any testing program. For individual screening tests, notification of positive cases is either done by closing the whole classroom and notifying the guardian separately so that other students do not know who in the class is infected, or if administered at the end of the day, a phone call home to the infected individual. Maintaining confidentiality with pooled testing is less complex because the infected person is not known initially – the only result known is that the "pool" is positive.

Regardless of approach, all individuals must get a second, confirmatory test in the case of either a positive screening test or a positive pool. This confirmatory test could either be done on site at schools if allowed by local public health authorities, or through the local public health resources.

Frequency of Testing

Frequency of testing will depend on multiple factors, including community prevalence, number of tests available, human resources, and cost, among other things. In general, studies have found the following strategies appropriate:

Diagnostic testing: Should be done whenever someone is symptomatic. This can be done at school, but most often done by public health authorities or at a medical facility.

Screening testing: Because of the lower accuracy of these types of tests, they may need to be done multiple times per week, although weekly is sufficient in areas with low transmission (https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/operation-strategy.html). Many schools are doing 2-3 times per week.

Pooled testing: Pooled testing uses more sensitive tests than screening testing approaches. Many schools are doing pooled testing 1-2 times per week.

Testing 1-3 times per week with screening or pooled testing approaches are estimated to reduce the risk of COVID-19 transmission by 60% or more.[8]

Barriers to Participation

It is important to remember that participation in COVID-19 testing may not be mandated. It is not uncommon for members of school faculty, parents, and caregivers to initially want to opt out of participating in testing. Often, this is due to misconception of the type of test, fear that the type of test being administered is the nasopharyngeal swab that is often painful, when it is actually less invasive swabbing that is utilized. Another barrier that may arise is that caregivers may not want their child to miss out on any school due to a positive result. In this instance, it is best to communicate how testing is ensuring their safety while at school.

Likewise, school faculty and staff may not want to be tested in fear of having a positive result and not having paid leave. Ensuring paid leave in the case of a positive result is critical.

Clear communication about the testing program should be delivered by trusted members of the community. Schools should anticipate that not all students and staff will agree to undergo testing. Isolation and quarantine may limit a family's ability to earn income, acquire food, or utilize childcare services. Schools must work hard to develop trust among community members, and, if possible, support the most vulnerable through isolation and quarantine.

Preparations for School Testing

A successful testing program requires planning and preparation. There are several items that should be obtained and organized prior to the implementation of school testing:

1. **Implement infection control measures: As previously stated, all mitigation measures should be in place at schools.** The CDC issued prevention guidance strategies (https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/operation-strategy.html#anchor_1616080084165) for all schools K-12 grades. The five key measures include universal mask wearing, physical distancing, handwashing, cleaning, and contact tracing. Other recommendations include improving ventilation, modify classroom layouts, closure of communal spaces, avoid self-serve food or drink stations, and ensure all water systems are functioning.

2. **Obtain a CLIA Waiver:** A Waiver of a Clinical Laboratory Improvement Amendment allows for a facility to legally examine a person through waived tests to assess health, diagnose, and determine treatment. Each school administering CLIA-waived COVID-19 screening or diagnostic tests needs to have a CLIA Certificate of Waiver. A district can obtain just one CLIA waiver and extend it to schools in the district if needed. The application form can be found here (https://www.cms.gov/Medicare/CMS-Forms/CMS-Forms/Downloads/CMS116.pdf). An annotated version of the CLIA waiver application and further instructions can be found in Appendix A. While, CLIA waivers are not required for pooled testing, the process is relatively simple so obtaining one regardless of the testing approach will provide the most flexibility. CLIA waivers do require naming of the test that will be administered and updating names of tests if different tests are used.

3. **Identify Personnel:** Decide who will conduct the testing. This could be the school nurse. If there is no school nurse, any adult staff member can collect and process the tests after approximately 1-2 hours of training. A second staff member should be available to assist, as needed. This person may help label specimens, gather additional supplies, keep students organized, and assist with hand washing and social distancing for younger students.

4. **Consent Forms:** Participation in school testing is voluntary. An 'On-Site COVID-19 Testing Consent Form' should be signed by all school faculty and staff that participate in testing. In addition, students will be sent home with a consent form for their parent or caregiver to complete (if under 18) or for them to complete on their own if over 18. The consent forms explain the type of testing that will be conducted and who will have access to the data and why. An example of this consent form can be found in Appendix C.

5. **Communication Materials:** It is recommended that communication materials be distributed in advance of testing starting to minimize confusion and increase buy-in. Communication materials should be tailored to three groups: Parent/Caregiver, School Faculty, and Students. Examples of these communication materials can be found on the Johns Hopkins Center for American Indian Health's website (https://caih.jhu.edu/schoolresources/).

6. **Identify a Testing Location:**

   a. Centralized: A centralized location for testing could be the school cafeteria, gym, or library. School staff and students will be directed in their classroom cohorts to the centralized testing area. Benefits to a centralized location include feasibility for testing and ability to install privacy barriers. The negatives of a centralized location include longer testing times as every cohort needs to transport to and from the testing location and be assessed individually.

   b. Decentralized: A decentralized method would entail the testing being administered in a classroom setting. Staff and students would not have to leave their classroom to conduct testing, which could decrease time for school test administration. The negative of a decentralized location is often comfort level of individual staff with unmasking in their classroom.

7. **Identify Number of Participants:** Tracking accurate numbers of total school staff, faculty, and students who participate in testing will help ensure there are adequate testing supplies and Personal Protective Equipment (PPE; see #9 below for more information) to support the program. These numbers will fluctuate as students may oscillate between virtual and in-person learning, or attendance changes each day. Some testing administers use the daily roster as a check list to help ensure all students who are in attendance and consented participate in testing and then record the number of tests administered by day in a tracking log. For pooled testing, an example of a pooled tracking list can be found in Appendix D.

8. **Determine Testing Schedule:** Dependent on what testing strategy utilized, a routine schedule should be established for students and staff. This should be determined prior to testing to be clearly communicated to all stakeholders for transparency.

9. **Personal Protective Equipment (PPE):** For collection of lower nasal or mid-turbinate specimens for screening testing of asymptomatic individuals, use of a surgical mask, gloves, and eye protection are recommended. As neither testing approach generates aerosols, N95 masks and full PPE is not required.

10. **Supplies:** Supplies needed include:

    a. Test kits with FDA Emergency Use Authorization or for pooled testing

    b. Hand sanitizer or access to running water and soap

    c. Gloves, masks, Chux pads, biohazard bags, medical grade wipes

    d. Kitchen timers can be helpful for rapid antigen tests.

The CDC recommends that any testing materials, including PPE, should be considered biohazard waste and should be disposed of according to state, local, or tribal regulations. More information can be found here (https://www.cdc.gov/csels/dls/locs/2020/waste_management_guidance_for_sars-cov-2_point-of-care_testing.html).

COVID-19 Test Administration

Testing Administration Protocol

Testing administration will look slightly different in every school given the various settings, resources, and personnel involved. This is a guide on how to administer testing in a school setting.

Table 2. Rapid Antigen Testing vs. Pooled Surveillance Testing

Rapid Antigen Testing	Pooled Surveillance Testing
1. Prepare a school/classroom/cohort roster beforehand with names and DOB of students and staff to allow for quick labeling of antigen test kits. Consider pre-printed labels that can be placed on kits and results if needed.	**1.** Keep a printout of the students/staff in attendance by assigned "pool" name to check off when swabs have been completed and track number in each tube.
2. Testing administrator prepares the testing station or a mobile cart, by opening all kits in advance to reduce time.	**2.** Distribute swabs to everyone – this can happen one by one or in small groups.
3. Each student/staff will sanitize their hands.	**3.** Individual will swab their nostrils by inserting the soft tip of the swab into the nostril and rotating the swab for 5-10 seconds. The same swab is then inserted into the other nostril and the process is repeated. Counting out loud can help ensure the process is not rushed. If necessary, the testing administrator can help in this process.
4. Each student or staff member will be provided with a swab.	**4.** Swab is then placed directly in the tube "boogers side" down.
5. Individual will pull down mask from nose but will keep the mask covering their mouth to prevent aerosols from potential sneezes or coughs.	**5.** Once all individuals in the "pool" have swabbed, the screw top lid is place securely on the top of the tube, the barcode is scanned, and data is inputted into the data portal.
6. Individual will swab their nostrils by inserting the soft tip of the swab into the nostril and rotating the swab for 5-10 seconds. The same swab is then inserted into the other nostril and the process is repeated. Counting out loud can help ensure the process is not rushed. If necessary, the testing administrator can help in this process.	**6.** Box is sent out to the lab and results are returned within 24-48 hours.
7. Individual hands the swab back to the testing administrator ensuring that no one touches the part that was used to collect the sample from the nostril.	
8. Testing administer processes the sample while students/staff return to classroom or leave the building.	

Reporting Testing Results

State laws require that all positive cases of COVID-19 be reported to state, local, tribal, or territory public health departments. Some states also require that negative results from screening or surveillance tests be reported to the appropriate public health departments. To help with facilitating this reporting, there are tools a school can use, including: https://simplereport.gov/. If using pooled testing, a positive pool should be reported to the local public health authority to ensure appropriate follow-up testing and contact tracing. All individuals in the pool will need to be re-tested. This follow-up testing approach needs to be developed in collaboration with the local public health authorities. Options for follow-up testing include diagnostic testing using antigen tests on site or referral to a local clinic for diagnostic testing.

Positive Results

In the case of a **positive** result, the school nurse or Testing Coordinator will inform the individual, or parent/guardian of the individual, of the positive result either in person or via phone call. School staff/faculty will be excused from campus effective immediately after a positive test result and instructed to begin isolation. Parents/guardians of COVID-positive children will be notified of test result. School staff will ensure that students who test positive will be picked up by a responsible caregiver or transported home or to a safe environment by a school staff member. Schools may also consider dismissing the whole classroom/cohort of the infected individual to protect the privacy of the student. The school will report the positive test to the local public health authority to ensure proper contact tracing and follow-up testing can be done.

If the positive test resulted from a **screening or pooled test**, the individual or all individuals in the pool should then complete a second test for confirmation. This could be an in-home test, a test administered at the school, or a test at a local clinic. Ideally, schools will support students/staff with an information sheet that includes local testing sites. A wellness kit could be delivered to COVID-19-positive individuals to provide essential goods needed to support quarantine at home. If possible, schools could pivot to online learning for the students required to isolate and quarantine. An example positive protocol is included in figure 3.

In preparation for a positive case on school campuses, schools should have quarantine and isolation protocols in place that are guided by local public health authorities in conjunction with current CDC recommendations for isolation and quarantine guidelines (https://www.cdc.gov/coronavirus/2019-ncov/easy-to-read/COVID-19-Quarantine-vs-Isolation.html). Ideally, schools would be prepared to pivot to online learning when needed, but packets can also be sent home with students as needed.

Figure 3: Example of a Positive Protocol for Rapid Antigen Testing

1. Remember to maintain sensitivity and confidentiality when delivering any results.

2. If the positive is a **student**, and they are present on campus:
   - a. Prior to delivering results to any positive individual, please ensure that you have proper PPE in place to be in close contact with that individual.
   - b. Please ensure that they are properly wearing their mask and politely ask him/her out of room to notify them in private of results.
   - c. Immediately escort them to the previously established isolation room.
   - d. Please have the school administration contact their parent/guardian for immediate pick up.
   - e. If parent/guardian is unable to pick the student up, please follow school protocols for ensuring that student is safely and promptly taken home.
   - f. If a minor is in a cohort, a school could consider sending the whole cohort home since many will be considered close contacts. The guardians of the individual infected should be notified immediately to ensure proper care at home.

3. If the positive is a **staff member**, and they are present on campus:
   - a. Prior to delivering results to any positive individual, please ensure that you have proper PPE in place to be in close contact with that individual.
   - b. Please ensure that they are properly wearing their mask and politely ask him/her out of room to notify them in private of results.
   - c. It is their responsibility to notify their supervisor of the result.
   - d. Immediately escort them to their car for departure.

4. If the person is off campus, please immediately call them with their result. Make sure to ask for their full name and date of birth before providing them with their testing results.

5. Please do not tell any other individual about the result to preserve confidentiality.

6. All individuals who test positive on a rapid antigen screening test need a confirmatory diagnostic PCR test to confirm the test result.

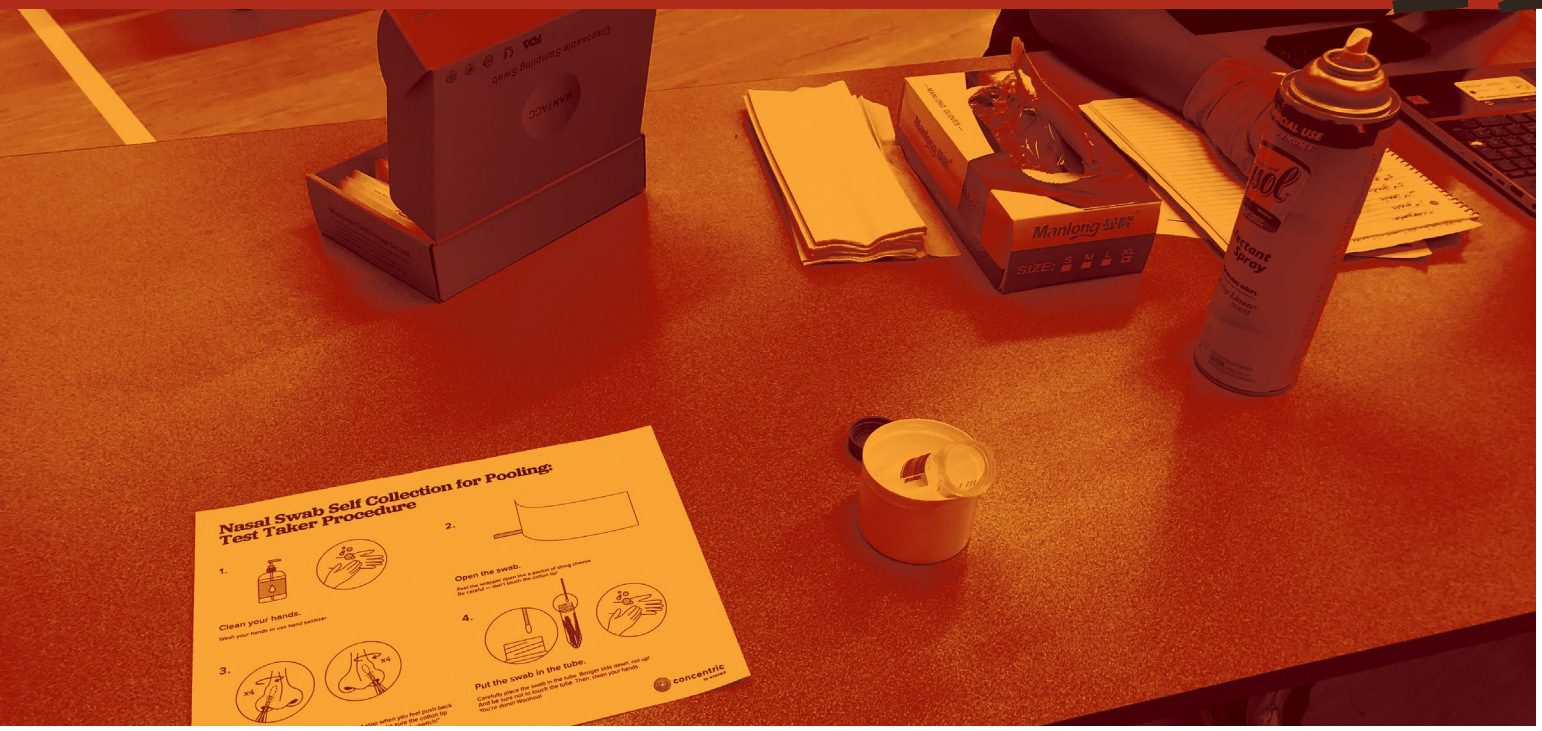
7. Local public health authorities should be notified of any positive result to aid in contact tracing efforts and follow-up diagnostic testing.

Negative Results

In the case of negative results on either the antigen or a negative pool, no notification is necessary. **No news is good news!** *Regardless* of test result, anyone with symptoms of COVID-19 should stay home and be evaluated by local medical providers. Additionally, anyone who is unvaccinated with a known exposure to COVID-19 should stay home and quarantine for ten days. Anyone who is vaccinated and has a known exposure, if asymptomatic, should discuss their return-to-campus status with their school. Schools should work with local/tribal health departments to support students, staff, and families through the quarantine and isolation process.

A note on false positives and false negatives:

It is important that the school community knows that some incorrect test results are to be expected. This doesn't necessarily reflect poor test quality. Schools should have many other measures in place to keep students and staff safe regardless of a test result, including daily symptom and temperature screening, universal masking, and increased hand washing.



Data Management and Distribution

Recording Results

For rapid antigen tests, results must be recorded in real time after the test is processed. This can be done using paper logs, or preferably, through an electronic portal. A sample results log is available in Appendix E. Results should be entered daily in a secure database and reported appropriately to local and state authorities. Schools can either work with local partners to develop their own data tracking and reporting system or could use https://simplereport.gov/ to record and report on results. Some testing vendors also supply tracking databases.

Pooled testing requires less data entry. Generally, pooled testing requires utilizing a barcode scanner to register the tube. The number of swabs and name of the pool is then entered into an online portal. When the lab results the pool, the results of the pool will be posted in the online portal. This process is usually explained by any testing companies that offer these services.

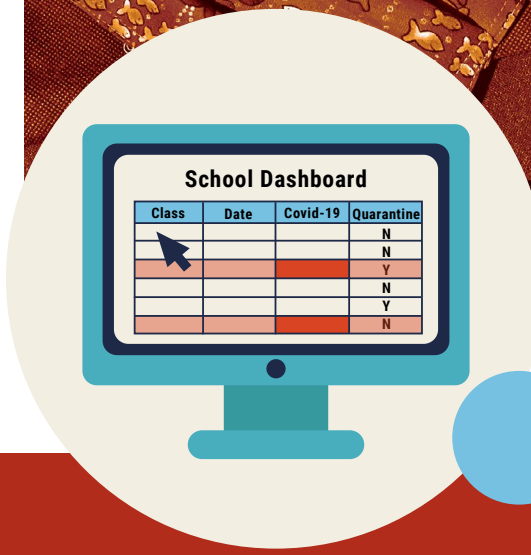
Communication

Generating Buy-In

Early and transparent communication with all stakeholders is key to any school-based testing programs. The most effective approach to community buy-in are town hall-style meetings with all stakeholders before initiation of testing programs, with a strong focus on students, families, and staff as individual stakeholders with unique sets of concerns and questions. Importantly, school leadership should deliver clear messaging to students, school staff, parents, and the community that detection of cases among students can help to prevent the spread of the virus to others. Communication about the importance of testing and how it fits into other mitigation strategies is key. Since consent is necessary, the more guardians and stakeholders know about the program, the better informed they will be which will increase participation and reduce cases in the community.

Sharing Test Results

Along with this, schools should be prepared to respond to a positive test result. Schools should create email and letter templates in advance to inform staff, families, and the community of in-school cases or evidence of COVID-19 transmission. Examples of these can be found in Appendix F. Careful distinction must be made between cases arising in the community and cases arising from school-based transmission. A data dashboard published to the school's website or social media account can be very helpful. Creation of such a dashboard can be done through such software as Microsoft Excel or Tableau.



Contact Tracing

Contact tracing plays a critical role in preventing the spread of infection and should be integrated into all school testing programs. In addition to notifying an infected individual's recent contacts and referring them to available testing sites, contact tracers can support those in quarantine by monitoring their symptoms and needs, and linking them with existing community services. Contact tracing is often done by a local public health authority. Figure 4 shows some of the basic steps.

Figure 4: Ideal Timeline of Tasks for Contact Tracing Schools

Day 1
Case Identified

A. Schools notified by local public health authority (e.g., Indian Health Service) or vice versa

B. Schools send students home and notify families of direct contacts with previously drafted letter

C. Contact tracers meet with schools to obtain rosters and begin contact tracing

D. Contact tracers determine what approach to testing best fits the situation: in-home testing, "mini blitz" testing at school, or testing at a health center

E. Schools determine if they will do full campus closure vs. isolated quarantine of impacted classrooms cohorts

Day 2-3
Notifications and Communication

A. The local public health authority notifies all contacts and families of direct contact and of their quarantine status

B. The local public health authority provides date and location for when their student will be tested

C. The local public health authority provides complete rosters of all individuals in quarantine to schools and Community Health Representatives

- If schools decide on full campus closure, this can help determine length of time

Day 5-7

A. Contact tracers and team conduct testing of all direct contacts

B. Decisions about return to school or re-opening of closed cohorts are guided by local public health authorities and follow CDC recommendations (https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/contact-tracing.html).

Examples of Testing Programs in Action

Example 1

A boarding school on the Fort Apache Indian Reservation partnered with Indian Health Service (HIS) and Johns Hopkins Center for American Indian Health (JHCAIH) to develop a testing program that included testing all of their in-person staff and students with rapid antigen tests twice weekly. Initiation of the testing program included assistance from IHS and JHCAIH, however within a few short weeks the school was autonomous in their ability to execute the testing. The school utilized two non-medical staff members to administer testing and used a centralized testing location in the gymnasium. Students and staff self-swabbed in small groups with physical distancing during their first and second periods. Individuals were sent back to their classrooms while tests were processed. In the case of a positive test result, the whole classroom/cohort was sent home to quarantine and awaited follow-up diagnostic testing completed by IHS. A video of their process with narration by their non-medical personnel can be found here: https://youtu.be/iYqcc4cKxrw

Example 2

A large school district (one high school, one middle school, and three elementary schools) on the Fort Apache Indian Reservation partnered with IHS and JHCAIH to develop an opt-in screening testing program of staff members utilizing the BinaxNOW rapid antigen test. Though enrollment was low at the onset, schools experienced increased number of staff members enrolling in the program rapidly after initiation. The district appreciated this mitigation strategy and are working to expand to pooled testing for students and athletic teams for their summer programming and return-to-campus in the fall.

Example 3

An elementary school elected to use pooled testing for students and staff. The school district started during summer school with one elementary school. A paraprofessional who was training to be a nurse handled all the testing logistics. The successfully tested all students and staff who had opted into the program through a signed consent form. At the end of the first week of testing, the school indicated they felt very confident in administering the tests and no longer needed any external assistance.

Conclusion

Testing for COVID-19 in the school community can enhance safety in schools and provide information for ongoing public health response to the virus. To help faculty and students stay safe while on school campuses, while also getting back to in-person educational activities, schools can consider adding COVID-19 testing to their ongoing mitigation efforts. Furthermore, in-school testing programs can provide guidance to local public health authorities on the disease presence in their communities. With increasing vaccination rates, routine testing can help monitor for breakthrough infections, detect variants of concern, and assist in limiting asymptomatic spread of COVID-19.

References

1 NIEA survey on impact of COVID-19 in native schools. *National Indian Education Association*.

2 Is it safe to reopen schools? an extensive review of the research. *American Enterprise Institute - AEI*. https://www.aei.org/research-products/report/is-it-safe-to-reopen-schools-an-extensive-review-of-the-research/. Accessed Apr 4, 2021.

3 Rivers Caitlin SC, Potter Christina, Franklin Michelle Ray Rebecca, Gill Mira, McClellan Mark. Risk assessment and testing protocols for reducing SARS-CoV-2 transmission in K-12 schools. *The Rockefeller Foundation, Duke Margolis Center for Health Policy, Johns Hopkins Bloomberg School of Public Health Center for Health Security.*

4 Honein MA, Barrios LC, Brooks JT. Data and Policy to Guide Opening Schools Safely to Limit the Spread of SARS-CoV-2 Infection. JAMA. 2021;10.1001/jama.2021.0374. Published online ahead of print 2021 January 26. doi:10.1001/jama.2021.0374

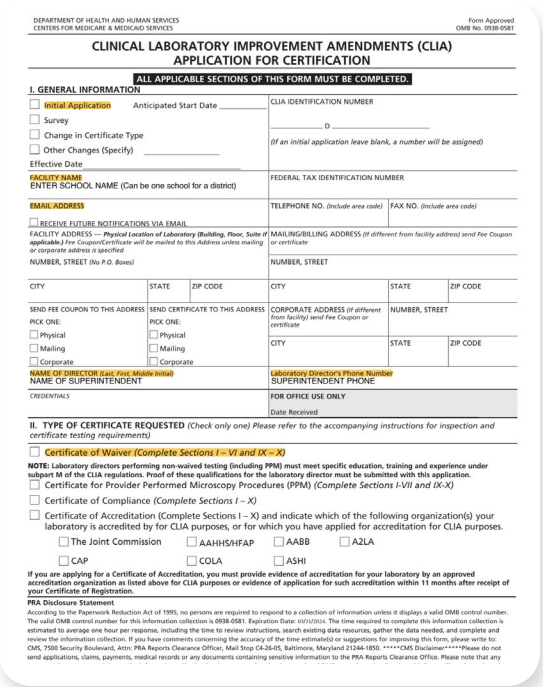
5 Sun Y. Clarifying the evidence on SARS-CoV-2 antigen rapid tests in public health responses to COVID-19. *Journal of business & economic statistics*. 2018;36(4):565-568. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00425-6/abstract. doi: 10.1080/07350015.2018.1505628.

6 https://www.hhs.gov/about/news/2021/03/17/biden-administration-invest-more-than-12-billion-expand-covid-19-testing.html

7 Early insights and recommendations for implementing a COVID-19 antigen testing program in K-12 schools: Lessons learned from six pilot sites. Mathematica Web site. https://www.mathematica.org/our-publications-and-findings/publications/early-insights-and-recommendations-for-implementing-a-covid-19-antigen-testing-program-in-k-12. Updated 2021. Accessed Apr 14, 2021.

8 Silcox, C. et al.. A National Decision Point: Effective Testing and Screening for Covid-19. The Rockefeller Foundation. https://healthpolicy.duke.edu/publications/national-decision-point-effective-testing-and-screening-covid-19. Accessed April 3, 2021.

Appendix A. CLIA Waiver Application Form



DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR MEDICARE & MEDICAID SERVICES

Form Approved
OMB No. 0938-0581

CLINICAL LABORATORY IMPROVEMENT AMENDMENTS (CLIA)
APPLICATION FOR CERTIFICATION

ALL APPLICABLE SECTIONS OF THIS FORM MUST BE COMPLETED.

I. GENERAL INFORMATION

- ☐ Initial Application — Anticipated Start Date _____
- ☐ Survey
- ☐ Change in Certificate Type
- ☐ Other Changes (Specify) _____

Effective Date _____

CLIA IDENTIFICATION NUMBER
_____ D _____
(If an initial application leave blank, a number will be assigned)

FACILITY NAME
ENTER SCHOOL NAME (Can be one school for a district)

FEDERAL TAX IDENTIFICATION NUMBER

EMAIL ADDRESS

☐ RECEIVE FUTURE NOTIFICATIONS VIA EMAIL

TELEPHONE NO. *(Include area code)*

FAX NO. *(Include area code)*

FACILITY ADDRESS — ***Physical Location of Laboratory (Building, Floor, Suite if applicable.)*** *Fee Coupon/Certificate will be mailed to this Address unless mailing or corporate address is specified*

NUMBER, STREET *(No P.O. Boxes)*

CITY | STATE | ZIP CODE

MAILING/BILLING ADDRESS *(If different from facility address) send Fee Coupon or certificate*

NUMBER, STREET

CITY | STATE | ZIP CODE

SEND FEE COUPON TO THIS ADDRESS
PICK ONE:
☐ Physical
☐ Mailing
☐ Corporate

SEND CERTIFICATE TO THIS ADDRESS
PICK ONE:
☐ Physical
☐ Mailing
☐ Corporate

CORPORATE ADDRESS *(If different from facility) send Fee Coupon or certificate*

NUMBER, STREET

CITY | STATE | ZIP CODE

NAME OF DIRECTOR *(Last, First, Middle Initial)*
NAME OF SUPERINTENDENT

Laboratory Director's Phone Number
SUPERINTENDENT PHONE

CREDENTIALS

FOR OFFICE USE ONLY
Date Received

II. TYPE OF CERTIFICATE REQUESTED *(Check only one) Please refer to the accompanying instructions for inspection and certificate testing requirements)*

☐ Certificate of Waiver *(Complete Sections I – VI and IX – X)*

NOTE: Laboratory directors performing non-waived testing (including PPM) must meet specific education, training and experience under subpart M of the CLIA regulations. Proof of these qualifications for the laboratory director must be submitted with this application.

☐ Certificate for Provider Performed Microscopy Procedures (PPM) *(Complete Sections I-VII and IX-X)*

☐ Certificate of Compliance *(Complete Sections I – X)*

☐ Certificate of Accreditation (Complete Sections I – X) and indicate which of the following organization(s) your laboratory is accredited by for CLIA purposes, or for which you have applied for accreditation for CLIA purposes.

☐ The Joint Commission ☐ AAHHS/HFAP ☐ AABB ☐ A2LA

☐ CAP ☐ COLA ☐ ASHI

If you are applying for a Certificate of Accreditation, you must provide evidence of accreditation for your laboratory by an approved accreditation organization as listed above for CLIA purposes or evidence of application for such accreditation within 11 months after receipt of your Certificate of Registration.

PRA Disclosure Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0938-0581. Expiration Date: 03/31/2024. The time required to complete this information collection is estimated to average one hour per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: CMS, 7500 Security Boulevard, Attn: PRA Reports Clearance Officer, Mail Stop C4-26-05, Baltimore, Maryland 21244-1850. *****CMS Disclaimer*****Please do not send applications, claims, payments, medical records or any documents containing sensitive information to the PRA Reports Clearance Office. Please note that any

Please see the Center for American Indian Health website for Appendix A. CLIA waiver Application form

caih.jhu.edu/schoolresources

Appendix B. School Testing Checklist

Preparation

- ◯ **1.** Obtain CLIA waiver
- ◯ **2.** Send out consent forms for all personnel to participate in testing
- ◯ **3.** Determine type of testing (rapid antigen or pooled testing)
- ◯ **4.** Identify school testing personnel
  - **a.** Test champion, etc.
- ◯ **5.** Identify testing location
- ◯ **6.** Determine number of individuals being tested on each day
- ◯ **7.** Designate testing schedule
- ◯ **8.** School personnel trained for testing administration
- ◯ **9.** Obtain testing supplies
- ◯ **10.** Do a walkthrough of testing procedures
- ◯ **11.** If using rapid tests on site – set up reporting with simplereport.gov
- ◯ **12.** If pooled testing –
  - **a.** Arrange pick up time for courier
  - **b.** Ensure log in credentials work for results portal

Communication

- ◯ **1.** Provide information to guardians and staff
- ◯ **2.** Obtain consent forms for all testing participants
- ◯ **3.** Troubleshoot and discuss how to obtain hire consent rates

Reporting

- ◯ **1.** If using rapid tests on site –
  - **a.** Record results for each test administered in simplereport.gov
- ◯ **2.** If pooled testing –
  - **a.** Check portal daily
- ◯ **3.** Report any positive results to local public health authorities
- ◯ **4.** Facilitate information to contact tracers
- ◯ **5.** Follow positive test protocol set up by your school leadership and guided by the public health authorities

Appendix C. Example consent form

On-Site COVID-19 Testing Consent Form – Parent/Guardian

{NAME OF SCHOOL} wants students and staff to safely return to in-person learning. As such, we will be implementing a COVID-19 testing program that is convenient, non-invasive, safe, and free of charge.

Each parent or legal guardian must read and sign this form for their minor child to participate in school-based COVID-19 testing.

By signing this Consent Form, I give my consent for my child to participate in the COVID-19 testing program, and I authorize the collection of my child's nasal swab or saliva sample for the public health purposes of the program. I understand that:

- **{NAME OF SCHOOL}, in partnership with the {Name of partner if using}**, will provide COVID-19 testing using a lower nasal swab or saliva technique.
- The testing program will regularly occur during the school day when parents are not present.
- There are two types of tests my child may receive while at school: Pooled tests and/or individual screening tests.
  - Pooled tests do NOT provide individual results to a person. However, if a positive result is produced from a pooled test, all persons in that pool/group will be notified.
  - Individual screening tests do provide individual results. Each parent/guardian will be notified if your child's test is positive.
  - Regardless of whether my child participates in pooled tests or individual screening tests, a follow-up diagnostic test may be necessary. The local public health authority, Indian Health Service, will provide guidance in this case.
  - As with any COVID-19 test, there is the potential for incorrect (false positive or false negative) results.
- I give my permission for the test results to be shared with **{Name of public health authorities and other partners these results will be share}**, and **{NAME OF SCHOOL}**.
  - I understand that my child's test results will be provided to **these organizations** to allow for appropriate public health response and reporting, included as required by law to local and state public health authorities.
  - I acknowledge that JHCAIH would also like to analyze the data on testing as part of a research project to improve understanding of the benefits and challenges of COVID-19 testing in schools.
  - I understand that while JHCAIH, the testing provider and the laboratory may have access to personal information I provide for testing, my child's identity will not be shared for research purposes.

- I understand that **{Name of partners}** and **{NAME OF SCHOOL}** are not acting as my child's medical provider. This testing does not replace treatment by a medical provider. I assume responsibility to take appropriate action with regards to my child's test results.
- I agree that I will seek medical advice, care, and treatment from my child's medical provider as needed, and especially if my child's condition worsens.
- I understand that I can change my mind and cancel my permission for testing at any time, but such cancellation will not affect information already reported. To cancel permission for COVID-19 testing, contact **{NAME OF SCHOOL}**.
- I understand that I can revoke permission to share data for research purposes but can still get testing for my child at school without consenting to share data for research purposes. To cancel permission to share data for research purposes but keep permission to participate in school-based COVID-19 testing, contact **{NAME OF SCHOOL}**.
- I understand that {Name of Partners}, in collaboration with the testing provider and laboratory is researching and tracking variants to COVID-19 for epidemiological and public health purposes.

Signature

Name of Child

Date of Birth

Parent/Guardian Name (please print clearly)

Parent/Guardian Signature

Date

Return this Consent Form in one of three ways:

1. Email: **{ADD EMAIL OF SCHOOL}**
2. Drop it off at **{Name of School}**
3. Mail to School (address below)

{ADD ADDRESS}

Appendix D. Pooled testing participant tracking sheet

Observer / Collector Name:	
Full Pooled Kit ID barcode number (e.g. P1438-59E) - *use barcode scanner*	
Pool Name (e.g. classroom name)	
Date	
Time	
Instructions	*Make sure all swabs are cotton side-down in the tube and that each tube is registered.

Pool Information						
Pool Participants			Contact Information			
Number of swabs in the tube (between 5-25)	**First Name**	**Last Name**	**Phone Number**	**Student (please check)**	**Consent Signed?**	**Staff (please check)**
1				FALSE		FALSE
2				FALSE		FALSE
3				FALSE		FALSE
4				FALSE		FALSE
5				FALSE		FALSE
6				FALSE		FALSE
7				FALSE		FALSE
8				FALSE		FALSE
9				FALSE		FALSE
10				FALSE		FALSE
11				FALSE		FALSE
12				FALSE		FALSE
13				FALSE		FALSE
14				FALSE		FALSE
15				FALSE		FALSE
16				FALSE		FALSE
17				FALSE		FALSE
18				FALSE		FALSE
19				FALSE		FALSE
20				FALSE		FALSE
21				FALSE		FALSE
22				FALSE		FALSE
23				FALSE		FALSE
24				FALSE		FALSE
25				FALSE		FALSE

Please see the Center for American Indian Health website for Appendix D. Pooled testing participant tracking sheet

caih.jhu.edu/schoolresources

Appendix E. Test Results Form

Test Kit Lot Number: Exp Date: Date Kit was Received: Date Kit was Opened: Quality Control Performed by:

Pos. Control Swab Results: ○ Neg ○ Pos

Neg. Control Swab Results: ○ Neg ○ Pos

Procedural QC POS: ○ Valid ○ Invalid

Procedural QC NEG: ○ Valid ○ Invalid

QC Acceptable? ○ OK ○ Not OK

Document Corrective Action here: Supervisor's Initials: Date of Review:

School Name:				
Patient Name:	**Covid Status:** ○ Naive ○ Recovered ○ Vaccinated	**Test Results:** ○ Negative ○ ***POSITIVE***	**Time of Test:**	**Swabbed by:** ○ Nurse ○ Self-swab ○ Other: _____
DOB:	**Phone:**	**Role:** ○ Teacher ○ Staff/Admin ○ Student ○ Other: _____	**Time of Notification:**	○ **Entered into data system**
Consent on file	**Race:** ○ American Indian ○ White ○ African American ○ Hispanic/Latino ○ Asian ○ Native Hawaiian/Pacific Islander ○ Mixed Race ○ Other			

Please see the Center for American Indian Health website for the full Appendix E. Test Results Form

caih.jhu.edu/schoolresources

Appendix F. Example letter for positive case

Dear members of the **XX SCHOOL** community,
I am writing to inform you of **XX** positive student COVID cases at the **NAME** School. These positive results were discovered through pooled student testing that took place on **DATE**. For more information on our student pooled testing program, please see the **ADD WEBSITE IF POSSIBLE**.

Here is the most important information for you to know right now:

- The Indian Health Service (IHS) has determined that it is necessary to close **XX** Classrooms/ whole school through **DATE OF CLOSURE**. The classrooms/school will reopen for in person learning on **DATE**.
- All parents, caregivers, and staff members from the affected classrooms have been informed. If you were not contacted this morning by **NAME OF PERSON FROM SCHOOL**, your child's classroom is not one of those affected.
- Children from the affected classrooms have been asked to get diagnostic tests. This will help us to determine which students may be positive. We will then follow our regular contact tracing protocols to make sure that any additional affected individuals are informed and any necessary additional safety protocols are followed.
- All children in affected classrooms will continue to receive remote instruction until they return to school on **DATE**.

I am grateful to those families who have signed consent forms for their children to participate in weekly pooled student testing. In this case, the testing has helped us to keep our community safe. These positive results are a reminder that we need to continue to be vigilant both inside and outside of school. I ask that all members of our community take a moment to review the safety protocols outlined on our web page, as well as the district's **HEALTH AND SAFETY PLAN** on the District's website. Making sure that we are all following safety protocols like mask wearing, social distancing, and hand sanitizing outside of school will help to keep our students and staff members safe inside of school.

If you have any questions or concerns, please contact me via email **EMAIL OF PRINCIPAL** or call **SCHOOL NUMBER**.

Thank you for your attention and collaboration as we work to keep our school and community safe and strong.

Sincerely,
Principal Name