

# COVID-19: Testing Resources and Guidance for K-12 Schools from the Wyoming Department of Health

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## Background

The primary goal of COVID-19 testing in schools is to quickly identify individuals with active infection and minimize spread. COVID-19 testing can be used for diagnosis and screening in the school setting. Testing, alongside other mitigation behaviors and practices (e.g. vaccination, face covering use, physical distancing, hand hygiene, respiratory etiquette, cleaning and disinfection, ventilation) can help prevent SARS-CoV-2 spread in schools and helps protect students, their families, teachers and staff. Screening testing may be most valuable in areas with moderate or high community transmission levels, in areas with low vaccination coverage, and in schools where other prevention strategies are not implemented. Further information on screening testing in schools can be found from the CDC at

<https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html>.

The Wyoming Department of Health (WDH) will support COVID-19 testing for both diagnostic and screening purposes in Wyoming K-12 schools as well as in other programs providing services to children, including child care facilities, after school programs, and summer camps. WDH will provide all testing resources and can also support staffing or facility needs that schools may have to accomplish testing.

Whether schools and programs conduct COVID-19 testing, as well as the specific tests and testing protocols used, will be determined by the school or program. A school may choose to conduct only diagnostic testing or only screening testing, or both. WDH does not require schools or programs to conduct testing. This document provides information for schools and programs related to testing options available to schools, potential protocols for testing, and other support, such as staffing, that WDH is able to provide.

## Definition of Terms Used in this Document

**Diagnostic COVID-19 testing:** Testing to identify COVID-19 when there is a reason to suspect an individual may be infected, such as having symptoms consistent with COVID-19 or suspected recent exposure.

**Screening COVID-19 testing:** Testing to identify COVID-19 in individuals without symptoms and without known exposures. Screening testing is intended to identify infected people without symptoms, or before development of symptoms, who may be contagious so that measures such as isolation and quarantine can be taken to further prevent spread.

**Molecular COVID-19 test:** A COVID-19 test that uses polymerase chain reaction (PCR) or other method of nucleic acid amplification to detect the presence of viral genetic material (RNA) in a sample. These tests usually need to be sent to a laboratory to be tested. Molecular tests are the most sensitive type of COVID-19 test available, meaning that these tests are most likely to produce a positive result in a person who is infected with COVID-19.

**Antigen COVID-19 test:** A COVID-19 test that detects the presence of specific COVID-19 proteins (antigens) in a sample. These tests are usually rapid tests done on-site. Antigen tests are less sensitive than molecular tests, meaning that antigen tests may not produce a positive result in some individuals who have COVID-19.

**Turn-around time:** The time from collection of a sample from a patient until the time the test result is available to the patient's provider.

## Testing Platforms

WDH offers four testing platforms that schools and programs can use for COVID-19 diagnostic and/or screening testing. A description of each platform is included in this section.

### Option 1: Midwest Expanded Testing Coordination Center

This testing program is funded by the Department of Health and Human services and operated by an external contractor. The test is a molecular (PCR) COVID-19 test that is used for screening testing only. Individuals collect their own nasal samples under the observation of a trained person at the school. Samples are shipped or delivered by courier to an outside laboratory for testing. Samples are pooled into groups of 10 individuals; if a pool tests positive, diagnostic testing is conducted on each individual in the pool. Turnaround times after arrival at the laboratory are 24 hours for the pool to be tested, and then another 24 hours to perform diagnostic testing on any positive pool.

The program provides a portal by which school testing coordinators can manage testing and view results. Parents and patients can also log in to the portal to see individual results. Parents sign a one-time consent form allowing schools to test students at the school for the duration of the school year. Schools will work directly with the contractor for training, set-up, and logistics. The laboratory conducting the tests reports results directly to WDH, satisfying state and federal reporting requirements. There is no at-home testing option for this platform.

### Option 2: Vault

This is a saliva-based molecular (PCR) COVID-19 test that can be used for both screening and diagnosis. Samples are collected by asking individuals to spit into a tube. Sample collection must be observed by a trained individual at the school or by a provider over Zoom. Samples are shipped to either the Wyoming Public Health Laboratory or to an out-of-state laboratory. Turn-around times are between 24-48 hours. Ordering is done through a Vault online form, and reporting for all tests is done through the online dashboard Vault can provide to districts.

Saliva tests can either be collected on-site at the school or at the individual's home. For on-site collection, Vault is currently developing a platform so that schools will have a dashboard allowing the testing coordinator to view all students and staff undergoing testing and test results, as well as send test results directly to tested staff members or the parents of tested students. For on-site collection parents sign a one-time consent form allowing schools to test students at the school for the duration of the school year. Alternatively, schools can ask staff and students to take the test at home with a provider over Zoom. Access to a provider is available free of cost through Vault. For at-home testing, Vault is developing a dashboard allowing the testing coordinator to view all students and staff undergoing testing and test results. For at-home testing, consent is done each time a test is conducted through the kit registration process, and results are sent directly to the tested staff member or parent of a tested student via email. The testing laboratories also report results directly to WDH to satisfy state and federal reporting requirements.

### Option 3: Curative

This is a molecular (PCR) test for both screening and diagnosis of COVID-19, Influenza A, Influenza B, and Respiratory Syncytial virus. Individuals collect their own nasal samples under the observation of a trained person at the school. Samples are shipped to an out-of-state laboratory. Turn-around times are usually 36-48 hours from time of sample collection. Schools participating will have an online dashboard on which the testing coordinator can view all participating staff and students and their test results. Test results are also sent directly to the tested staff members and parents of tested students via email or text. Parents sign a one-time consent form allowing schools to test students at the school for the duration of the school year.

Curative also sends results directly to WDH to satisfy state and federal reporting requirements. There is no at-home testing option for this testing platform.

#### Option 4: BinaxNOW Antigen Test

This is an antigen test that can be used for both screening and diagnosis. Individuals ages 15 years and older collect a nasal self-swab under the observation of a trained person at the school; a trained person swabs individuals 14 years and younger. Testing is performed using a cartridge on-site with results in 15 minutes. WDH has developed an online registration form by which schools can keep track of participating staff and students and a form to enter their test results. This data is housed in REDCap, a program that reports results to WDH, fulfilling state and federal reporting requirements. With this platform, currently schools will have to manually report results to staff members and student parents by downloading a PDF of the results and printing or emailing. To perform BinaxNOW testing onsite, schools need to acquire a certificate from the WDH Office of Healthcare Licensing and Surveys allowing them to perform CLIA-waived tests. The application involves a fee, which WDH can support, as well as identification of an individual who is responsible for overseeing quality assurance and control of the testing process. WDH has training materials, and there is a competency quiz and forms to track quality assurance and control housed in REDCap.

While the BinaxNOW tests can be conducted at home, there is currently no system established for reporting those at-home tests to schools or to WDH.

Because antigen tests are less sensitive than molecular tests, there are certain situations which require that an antigen test be confirmed by a molecular test.

- When an individual **with symptoms** consistent with COVID-19 tests **negative** using an antigen test, a confirmatory molecular test should be performed. Like anyone with symptoms, the individual should remain out of school while awaiting the molecular test result. The confirmatory molecular test can either be provided through Curative testing at the school, or the individual can be referred to a community provider for a PCR-based confirmatory test.
- When an individual **without symptoms or known exposure** tests **positive** using an antigen test, a confirmatory molecular test should be performed. The individual should remain out of school until the molecular test is resulted. The confirmatory molecular test can either be provided through Curative at the school, or the individual can be referred to a community provider for a PCR-based confirmatory test.

## Testing Protocols

The Centers for Disease Control and Prevention (CDC) recommends protocols for screening testing of students and staff based on transmission levels in the community. The CDC recommendations are included in this section. These recommendations may change over time. Schools may choose to adapt protocols according to the local interest and need; for example, schools can select to screen staff members only, or choose to include all or a subset of students.

Diagnostic Testing: On-site diagnostic testing for students and staff with symptoms of COVID-19 can help to identify individuals who have COVID-19 faster, as well as remove barriers to COVID-19 testing, resulting in more immediate and complete implementation of public health measures to control transmission. Vault, Curative, and BinaxNOW can be used for diagnostic testing.

Screening Testing: The CDC recommends that schools offer screening testing to staff who are not fully vaccinated at least once per week at all levels of community transmission. If using the less-sensitive antigen test, consideration should be made for offering testing to staff twice a week. Staff who are fully vaccinated and remain asymptomatic should not participate in

screening testing, though should undergo diagnostic testing if they develop symptoms consistent with COVID-19. People are considered fully vaccinated for COVID-19 when at least 2 weeks have passed after they have received the second dose in a 2-dose series (Pfizer-BioNTech or Moderna), or when at least 2 weeks have passed after they have received a single-dose vaccine (Johnson & Johnson [J&J]/Janssen); there is currently no post-vaccination time limit on fully vaccinated status. Because adults are in general at higher risk of severe illness from COVID-19 than students, screening testing of staff should be prioritized over testing of students if necessary.

The CDC recommends considering offering screening tests to students who are not fully vaccinated and are participating in higher risk activities at all levels of community transmission. Higher risk activities are those in which it is difficult or impossible to practice prevention measures such as wearing face coverings or physically distancing; examples include close contact sports and certain performing arts (see table below). The recommended frequency of testing varies based on transmission levels in the community as shown in the table below. Because data indicate transmission of COVID-19 between older students is higher than that among younger students, consideration should be given to prioritizing screening testing of middle and high school students over that of elementary school students.

The CDC also recommends offering screening testing to all students who are not fully vaccinated at higher levels of community transmission. For example, schools could consider testing a random sample of at least 10% of students on a weekly basis.

The table below summarizes the CDC recommendations for testing protocols based on levels of community transmission. WDH metrics, which are consistent with the CDC measures though adapted for Wyoming’s rural population, are used to determine levels of community transmission. An explanation of those metrics as well as levels of transmission by county on a weekly basis can be found on this page, under the heading “Wyoming COVID-19 County Transmission Indicators:”

<https://health.wyo.gov/publichealth/infectious-disease-epidemiology-unit/disease/novel-coronavirus/covid-19-orders-and-guidance/>.

**Table 1: CDC testing protocol recommendations by level of community transmission**

	<b>Low or Lowest Transmission (Light Green or Dark Green)</b>	<b>Moderate Transmission (Yellow)</b>	<b>Moderate-High Transmission (Orange)</b>	<b>High or Very High Transmission (Red or Dark Red)</b>
Diagnostic Testing	Diagnostic testing offered to all symptomatic students and staff at all levels of community transmission			
Screening Testing - Staff	Screening testing offered at least once per week to all staff who are not fully vaccinated at all levels of community transmission			
Screening Testing - Students	No screening testing recommended for most students	Offer screening testing at least once per week for at least 10% of students who are not fully vaccinated based on a random sample or other protocol		
Screening Testing - High Risk Activities*	Offer testing at least once per week to students who are not fully vaccinated and are participating in high-risk activities*		Offer testing at least twice per week to students who are not fully vaccinated and are participating in high-risk activities*	



Screening Testing - Low and Intermediate Risk Activities**	No screening tested needed	Offer testing at least once per week to students who are not fully vaccinated and are participating in low and intermediate-risk activities**
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\* The NCAA has developed a risk stratification for sports

([https://ncaaorg.s3.amazonaws.com/ssi/COVID/SSI\\_ResocializationDevelopingStandardsSecondEdition.pdf](https://ncaaorg.s3.amazonaws.com/ssi/COVID/SSI_ResocializationDevelopingStandardsSecondEdition.pdf)). Examples of high risk sports include football and wrestling. Other high risk extracurricular activities are those in which exhalation occurs, such as activities that involve singing, shouting, band, or exercise, especially when conducted indoors.

\*\* Examples of low risk sports are diving and golf. Examples of intermediate risk sports include baseball and cross country.

## Summary of Testing Platforms and Protocols

The table below provides a summary and comparison of the available testing platforms and how they can be applied to the testing protocols described above. WDH is available to have discussions with schools to select a testing platform and develop a testing protocol that works best for each school.

	Midwest	Vault	Curative	BinaxNOW
<b>Type of test</b>	Molecular	Molecular	Molecular	Antigen
<b>Collection site</b>	At school	At school or at home	At school	At school
<b>Frequency</b>	Weekly	Weekly	Weekly	Twice weekly
<b>Target Group</b>	All Staff, some students depending on transmission levels	All Staff, some students depending on transmission levels	All Staff, some students depending on transmission levels	All Staff, some students depending on transmission levels
<b>Specimen Collection</b>	Observed self-nasal swab by a trained collector	Observed saliva	Observed self-nasal swab by a trained collector	Observed self-nasal swab by a trained collector or provider-collected nasal swab depending on age
<b>Ordering/reporting</b>	Portal	Vault platform	Curative portal	REDCap survey tool
<b>Time to results</b>	36-48 hours	24-48 hours	36-48 hours	15 minutes
<b>Confirmatory Testing</b>	No	No	No	Yes in certain situations
<b>Confirmatory Test Type</b>				Curative or community provider referral
<b>Confirmatory Specimen Collection</b>				Observed self-nasal swab or provider nasal swab
<b>Benefits</b>	Test results reported directly to individual, portal for testing coordinator	No swab needed, viral sequencing of many samples, test results reported directly to individual	Test results reported directly to individual, dashboard for testing coordinator	Short time to result, quick identification and isolation of infected individuals

<b>Potential Concerns</b>	Less frequent testing, increased turnaround time, requires shipping of samples to laboratory, pooled sampling will result in a period of time between knowing about a positive pool and knowing which individual(s) have COVID-19, cannot be used for diagnostic testing of symptomatic individuals	Less frequent testing, increased turnaround time, requires shipping of samples to laboratory, school platform still in development	Less frequent testing, increased turnaround time, requires shipping of samples to laboratory	Need to confirm positive tests, less sensitive in asymptomatic individuals, requires CLIA waiver, no on-line portal, requires extra step sending test result to individuals, more frequent testing requires more resources, if not confirmed with PCR swab not available for sequencing
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### Other Resources

In addition to supplying testing options, WDH can provide funding to support COVID-19 testing in schools in additional ways. For example, funding can be used for additional school staff to conduct testing, coordinate the testing program, and/or manage the testing data generated. WDH can also support schools in providing physical space to conduct testing or making modifications or improvements to existing space to allow for safe testing. There may be other resources that schools may need to conduct COVID-19 testing in schools or other COVID-19 mitigation activities (such as contact tracing) and WDH is happy to consider those requests.

To support COVID-19 testing in schools, WDH will provide consent form templates, training materials, and surveys to assess interest in and experience with school-based testing and other COVID-19 prevention measures.

### Next Steps

Schools and programs that are interested in conducting COVID-19 testing should contact Dr. Alexia Harrist at [alexia.harrist1@wyo.gov](mailto:alexia.harrist1@wyo.gov) or 307-777-7716 to set up a call with WDH to discuss potential protocols and resources needed.

**More resources from the Centers for Disease Control and Prevention (CDC) for K-12 schools can be found at <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/index.html>.**

**For more information about the COVID-19 outbreak please visit: [health.wyo.gov](http://health.wyo.gov) or [cdc.gov](http://cdc.gov).**

