Table 1: Modified from "CDC indicators and thresholds for risk of introduction and transmission of COVID-19 in schools" (published September 2020).

Indicators	Lowest risk of transmission in schools	Lower risk of transmission in schools	Moderate risk of transmission in schools	Higher risk of transmission in schools	Highest risk of transmission in schools	
Core Indicators						
Number of new county-level cases per 100,000 persons within the last 14 days	<5	5 to <20	20 to <50	50 to ≤ 200	>200	
Percentage of county-level RT-PCR tests that are positive during the last 14 days	<3%	3% to <5%	5% to <8%	8% to ≤ 10%	>10%	
Ability of the school to implement 5 key mitigation strategies:	Implemented all 5 strategies correctly and consistently	Implemented all 5 strategies correctly but inconsitently	Implemented 3-4 strategies correctly and consistently	Implemented 1-2 strategies correctly and consistently	Implemented no strategies	
Consistent and correct use of masks						
Social distancing to the largest extent possible						
Hand hygiene and respiratory etiquette						
Cleaning and disinfection						
Contact tracing in collaboration with local health department						

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Table 2: Testing types, purposes, and characteristics.

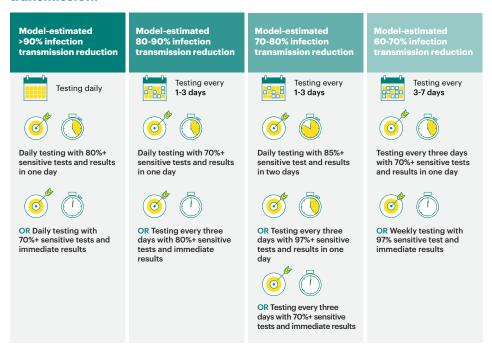
Testing Type	Purpose	Priority Characteristics	Required Sensitivity and Specificity
Diagnostic Testing	Diagnosing symptomatic individuals and close contacts of those infected for clinical and public health decision-making.	Highly accurate results with a short enough time to result for appropriate clinical treatment (if required) and effective isolation and contact tracing.	> 95% Sensitive > 99% Specific
Screening Testing	Routine testing of individuals without symptoms or any history of exposure. The objective of screening is to reduce transmission by isolating potentially infected individuals faster to protect public health. Screening tests can also be used less frequently or on random subsets of a population to determine prevalence.	For regular routine screening, frequency of retesting and time to results are more important than highly accurate tests; confirmatory tests may be needed for individual clinical decision-making.	> 70% Sensitive > 90% Specific (higher specificity is required if used in low prevalence settings)
Surveillance Testing	Understanding prevalence in a community to inform workplace, local, or regional policies; individual results are not returned.	Frequency and time to results should be appropriate to allow timely decision-making and course adjustment.	Because these tests are not used for individual decision-making, less accurate tests can be used if highly validated to allow for appropriate statistical adjustments.

Table 3: Example screening and surveillance strategy for a K-5 school that is using a "pod" strategy, with limited mixing between cohorts.

Covid-19 risk level, as determined through the risk assessment	Example goals of testing	Testing strategy
Very low	Identify or rule out SARS-CoV-2 infection in students and staff with Covid-19-like symptoms or recent history of contact with a confirmed case using diagnostic testing.	Continued mitigation measures in school. Students and staff are offered diagnostic testing as needed. If a confirmed positive case is found, all individuals in that pod and any other close contacts are quarantined and tested.
Low	Monitor for an increase in infection rates using surveillance testing. Monitor individuals at higher risk of transmitting the virus using routine screening. Continue to offer accessible and actionable diagnostic testing.	Routine surveillance testing, for example through pooled testing, of school "pods" every week. If a pool is found positive, all individuals in the pool remain in quarantine until individual testing identifies who is infected. Routine screening for staff in close contact with a significant number of other people throughout the day. Students and staff are offered diagnostic testing as needed. If a confirmed positive case is found, all individuals in the affected pod and any other close contacts are quarantined and tested.
Moderate	Reduce the probability of transmission within the school using routine screening. Continue to offer accessible and actionable diagnostic testing.	A routine screening program that carefully balances test frequency, accuracy, and time to results is implemented for all students and staff to significantly reduce infection transmission. Students and staff are offered diagnostic testing as needed. If a confirmed positive case is found, all individuals in that pod are quarantined and tested.
High	Monitor for an increase in infection rate if teachers and staff are on-site using surveillance testing. Continue to offer accessible and actionable diagnostic testing.	No in-person learning for students. Staff come to school for remote teaching, using strict mitigation measures, and testing every two weeks. Staff at high risk of severe illness work off-site. Students and staff are offered diagnostic testing as needed.

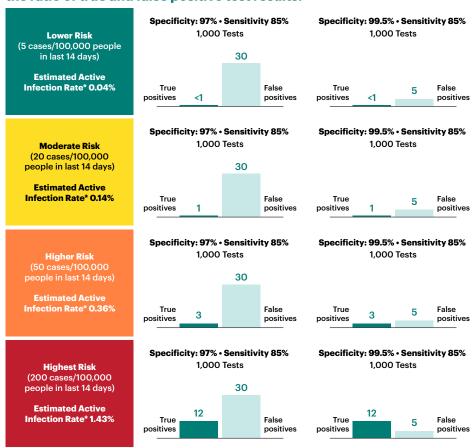
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Figure 1: Simulated results of testing strategies to reduce SARS-CoV-2 transmission.



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Figure 2: How estimated active infection rate and test specificity affect the ratio of true and false positive test results.



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