NASHVILLE PLAN:

Framework for a Safe, Efficient, and Equitable Return to School

Dear Fellow Nashville School Leaders,

Mayor Cooper partnered with Dr. Battle and Dr. Jahangir to convene a committee of school leaders to develop a plan to reopen schools. We are united in our approach to planning for a safe, efficient, and equitable return to school. Representing all school types, public schools, independent schools, Catholic schools, and public charter schools, the committee reviewed the world's leading public health best practices and research on COVID-19 in order to evaluate community conditions and necessary protocols to open schools safely and responsibly.

Opportunity Labs, an organization with deep experience in pandemic response planning, public health, and emergency operations, presented a scenario-based planning report for the purposes of informing return to school planning for Fall 2020. We then applied the Nashville context, led by health experts from Meharry Medical College, Vanderbilt University Medical Center, and the Metro Public Health Department.

This initial iteration of the Nashville Plan is just the beginning. School leaders will apply the plans and work with their stakeholders to adjust based on their needs and inputs. Stakeholder feedback with families and employees is essential to the success of the ongoing planning.

We had two main questions to guide our work:

1. Under what community public health conditions is it safe to reopen our schools?
2. When it is safe to reopen our schools, what precautions do all schools need to take to mitigate the risk of the spread of COVID-19?

Based on the evolving expert advice of the public health community, schools in Metro Nashville will only open if there is zero to moderate spread of COVID-19 in Nashville (phases 3 and 4 of the Nashville roadmap). If there is severe community spread of COVID-19, then schools should prepare to operate in a remote environment.

We have agreed that Nashville's schools will take measures to mitigate for the spread of COVID-19 when they reopen, and we have detailed those in the attached report. Until there is no or very minimal spread of COVID-19, we must take measures to reduce the transmission of COVID-19. In consultation with public health experts, we have outlined the practical actions we will take as a school community. If the data show that the conditions need to adjust, we will continue to adjust the guidance or educate in remote environments.

Please join us in reaching out to our stakeholders to explore how the Nashville Plan will be implemented with various ages of students, with students from diverse backgrounds, students with varying needs, and the health needs of our teachers and all employees.

We will remain focused on the public health data and research while ensuring we provide an excellent education for our students.

Sincerely,

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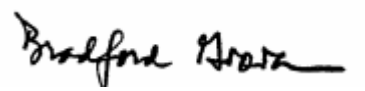

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INTRODUCTION

This report provides a roadmap for schools across Metro Nashville to navigate the COVID-19 pandemic. It outlines necessary steps to understand the public health scenarios associated with the pandemic and provides frameworks, approaches, and measurable milestones to inform the continuum of decisions that must be made to safely operate schools in fall 2020.

Ask any teacher, school principal, or district superintendent: Returning to school under normal circumstances is hard. Doing so in the face of COVID-19, a public health epidemic with extreme uncertainty, will be monumentally difficult. But the stakes could not be higher: An entire generation of students' academic, social-emotional, and mental health hang in the balance.

Returning to school when the public health situation allows will thus be a uniquely complicated challenge, the likes of which our educators have never encountered. If there exists any chance of returning to brick-and-mortar schooling in the fall of 2020, the work must begin now.

Given the uncertainties of the pandemic, four steps should inform this work:

1. An epidemiologic assessment, consideration, and projection of how the coronavirus pandemic may unfold over the next 18-24 months.

2. An evaluation of how each pandemic scenario may manifest in the Nashville community.

3. An application of community manifestation with school opening scenarios.

4. Essential actions that must be taken across functional workflows within each school opening scenario.

This roadmap is a framework based on the most up-to-date public health recommendations given the evidence to date. It does not, however, constitute medical advice, and it will need to be adapted in real time as the epidemic evolves.

Guiding Principles

Five principles should guide all planning, decision-making, and execution of the work of returning to school in Metro Nashville:

1. We will be transparent. We will share what we know and what we don't know. We will be clear about what we can control and what is outside of our control.

2. We will be equitable. We will center decisions on what is best for all students, families, and educators, especially those most impacted by educational inequities and COVID-19.

3. We will listen. We will bring together diverse stakeholders and experts to a) understand the realities on the ground and b) surface creative solutions.

4. We will put safety first. We will leverage science, data, and public health leadership to inform the choices we make.

5. We will be decisive. Given the size and scope of the challenge, we must move deliberately and make tough choices. We will make mistakes, and we will adapt quickly as variables on the ground change.

UNDERSTANDING KEY TERMS

The following terms frequently occur throughout this report. To assess, consider, and understand the coronavirus scenarios, establishing a shared vocabulary is critical.

- **Basic Reproductive Number:** abbreviated “Ro”, and pronounced “R naught”, refers to the number of new infections resulting from a single infected person. This term is also used interchangeably with the term “viral transmissibility.”
    - When Ro is greater than 1, each infected person is spreading the virus to more than one other person, and the virus is increasing in the population.
    - When Ro is equal to 1, each case spreads the virus to one other person, and the number of cases in a population stays constant over a period of time.
    - When Ro is less than 1, each infected person transmits the virus to less than one other person, and over time, case counts will decrease in the population.
- **Coronavirus:** a specific type of virus named for the appearance of crown-like spikes on their surface. There are seven known types of coronaviruses that can infect human beings. A “novel” coronavirus is a new subtype of coronavirus to which human beings have not been previously exposed and are thus more susceptible to infection. SARS-CoV-2 is a novel coronavirus.
- **COVID-19:** abbreviation of “Coronavirus Disease-2019”. The name for the actual disease state caused by the coronavirus. COVID-19 and SARS-CoV-2 are often used interchangeably, though this is inaccurate. The term “COVID-19” should be used to discuss the disease, while SARS-CoV-2 should designate the virus itself.
- **Epidemic:** an outbreak of disease that spreads quickly and affects many individuals at the same time.
- **Herd immunity:** resistance to the spread of a contagious disease within a population that results when a sufficient number of persons are immune either though prior infection and recovery or through vaccination. Herd immunity does not begin to develop until at least 60-70% of the population has been infected and recovered.

- **Incubation period:** the duration of time it takes for an infected person to begin to physically manifest symptoms that can be outwardly observed.

- **Influenza virus:** another specific type of virus from a different family than coronaviruses. There are several types of influenza virus, of which only three typically cause infection in humans on a seasonal basis.

- **Pandemic:** a specific type of epidemic — the outbreak of widespread disease — that spreads over greater geographic distances and affects an exceptionally high proportion of the population. Pandemics are relatively rare events, and not every epidemic qualifies as a pandemic. The World Health Organization declared the SARS-CoV-2 outbreak a pandemic in March 2020.

- **Severe Acute Respiratory Syndrome-Coronavirus-2:** abbreviated as SARS-CoV-2, the scientific name of the coronavirus causing the pandemic.

UNDERSTANDING PANDEMIC MODELING: CORONAVIRUS AND INFLUENZA

Epidemiologists typically rely on prior disease outbreaks for guidance when modeling new virus behavior. For example, annual influenza modeling relies on historical influenza virus behavior. But the COVID-19 pandemic has proven somewhat atypical from a modeling perspective for several reasons.

First, coronaviruses as a family have not been known to cause pandemics like this one. Recent coronavirus outbreaks, including severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), did not have the geographic reach of SARS-CoV-2. Instead, they manifested in more limited geographic areas. Second, each was less infectious than SARS-CoV-2, and transmission from person-to-person was lower than that of SARS-CoV-2. Finally, both SARS and MERS were each much more lethal than SARS-CoV-2 (approximately 14% and 35% of the individuals who contracted the respective viruses died[1]), which made the termination of transmission chains easier to achieve.

Broadly speaking, although they are from different families of viruses, SARS-CoV-2 is displaying behavior more similar to a novel influenza than to a coronavirus because of its

[1] https://www.who.int/emergencies/en/

higher transmissibility, wider geographic spread, and lower comparative mortality relative to other lethal coronaviruses.[2] Therefore, influenza outbreaks offer better historical and comparative models for assessing this outbreak.

Since 1700, there have been at least eight global influenza pandemics that can inform COVID-19 scenario planning.

Coronavirus and Influenza Similarities and Differences

Similarities	Differences
Both novel influenza and SARS-CoV-2 are highly contagious and capable of infecting large groups of people because nearly everyone in the global population is susceptible to the virus, and there is an absence of herd immunity.	SARS-CoV-2 has a longer incubation period than influenza (between 2-14 days[3]), and the percentage of persons with asymptomatic infections is greater with COVID-19 (up to 25%, compared to approximately 16% in influenza[4,5]). Furthermore, studies show that rates and quantities of viral shedding with SARS-CoV-2 may actually peak before symptoms manifest themselves, which allows infected individuals to spread the disease with greater efficiency than those infected with influenza.[6,7]
Both are also spread by respiratory droplets and share the ability to spread between people without showing symptoms during the incubation period.[1]	Higher Ro for SARS-CoV-2. For comparison, the Ro with prior pandemic influenza outbreaks has been around 2, meaning that each person infected passes it to two other persons.[1] For SARS-CoV-2, the Ro has fluctuated between 1 during periods of extreme social

[2] https://www.cidrap.umn.edu/sites/default/files/public/downloads/cidrap-covid19-viewpoint-part1_0.pdf

[3] https://annals.org/aim/fullarticle/2762808/incubation-period-coronavirus-disease-2019-covid-19-from-publicly-reported

[4] https://www.livescience.com/coronavirus-asymptomatic-spread.html

[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4586318/

[6] https://www.nature.com/articles/s41591-020-0869-5

[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4725380/

	distancing up to 5.7 or higher without mitigation measures in place.

Seasonality and Duration

From a seasonal perspective, and again comparing SARS-CoV-2 to pandemic influenza, it is worth noting that, "of eight major [influenza] pandemics that have occurred since the early 1700s, no clear seasonal pattern has emerged for most. Two started in winter in the Northern Hemisphere, three in the spring, one in the summer, and two in the fall.[2]"

Of those eight pandemics, seven had a smaller early peak that dissipated over a few months, followed by a subsequent peak approximately six months later. Among those subsequent peaks, some were smaller, and some were significantly larger and quite devastating. In some, the mortality rates increased with time such that the disease became more dangerous during the second waves. Finally, some of the pandemics included third and even fourth waves, though these have all been smaller and shorter duration than first- and second-wave events.

Eventually, these pandemics subsided when enough of the population had been infected, developed immunity, and were no longer susceptible; or, the viruses themselves mutated and were either no longer infectious or their mortality decreased. The critical point, however, is that second, third, and fourth waves have a confirmed historical precedent and are not an aberration. **It is highly likely that this virus will return with a peak that is difficult to predict.**

Vaccination

Interestingly, of the eight pandemic events referenced above, only one was significantly affected by a vaccination campaign (the 2009 H1N1 influenza). In that instance, a vaccine became available approximately six months after the pandemic initially began in Veracruz, Mexico, and a full-scale, global pandemic was averted. The other seven pandemics all propagated at a global scale before a vaccine could be effectively produced.

For SARS-CoV-2, there are approximately 120 vaccine candidates in development. Some have advanced farther than others, but all remain in relatively early clinical trials. Some experts have estimated that if new techniques currently being

experimented with succeed, a vaccine could be available in late 2020. Most, however, agree that a 12-to-18-month timeline to mid-2021 is most likely.

Effects of Pediatric Populations on Disease Spread

Historically, pandemic influenza outbreaks have most severely affected populations at the extremes of age, with the youngest and oldest members of society typically experiencing the highest mortality rates. The 1918-1919 influenza was an outlier in that regard and affected middle-aged persons in higher percentages than typically observed.

With SARS-CoV-2, there still remains much to learn about how pediatric, school-age populations are affected. Data from the U.S. Centers for Disease Control and Prevention[8], China[9], the Netherlands[10], and Italy[11] all suggest that serious COVID-19 illness in children is rare. However, there are increasing reports of a pediatric multisystem inflammatory syndrome that may be linked to SARS-CoV-2.[12] Whether children can spread the disease to others without showing symptoms remains unclear. Some studies have shown that children who are infected clearly have circulating levels of virus in their bloodstreams similar to adults.[13] But, because the frequency of infected children seems to be so low, it has been difficult to definitively determine whether or not they can spread the virus to others. Studies from Iceland[14], Italy[15], and the Netherlands[16] have all shown extremely low rates of pediatric infection. And early data from France[17], Australia[18], and the Netherlands[19] that followed school children and families found no instances where the child spread the disease to staff or teachers, and very low rates of transmission from a child to more senior members of the family. These have all been relatively small studies in Europe, however, and data from the United States are still being developed.

[8] https://emilyoster.substack.com/p/various-updates-and-assessing-risk

[9] https://emilyoster.substack.com/p/viral-research-updates-and-homeschooling

[10] https://www.rivm.nl/en/novel-coronavirus-covid-19/children-and-covid-19

[11] https://jamanetwork.com/journals/jama/fullarticle/2763401

[12] https://www.nytimes.com/2020/05/05/nyregion/kawasaki-disease-coronavirus.html

[13] https://zoonosen.charite.de/fileadmin/user_upload/microsites/m_cc05/virologie-ccm/dateien_upload/Weitere_Dateien/analysis-of-SARS-CoV-2-viral-load-by-patient-age.pdf

[14] https://www.nejm.org/doi/full/10.1056/NEJMoa2006100

[15] https://www.medrxiv.org/content/10.1101/2020.04.17.20053157v1

[16] https://www.rivm.nl/en/novel-coronavirus-covid-19/children-and-covid-19

[17] https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa424/5819060

[18] http://ncirs.org.au/sites/default/files/2020-04/NCIRS%20NSW%20Schools%20COVID_Summary_FINAL%20public_26%20April%202020.pdf

[19] https://www.rivm.nl/en/novel-coronavirus-covid-19/children-and-covid-19

Ultimately, it remains unclear to this point at what rate children develop serious illness secondary to SARS-CoV-2 infection and whether or not they can pass the virus to other children and adults. Most studies suggest each of these rates is extremely low, but the data are imperfect, and this is an area of active research.

Implications

Based on the transmissibility, seasonality, duration, and vaccination timing, expert models conclude that it is most likely that the COVID-19 pandemic will last 18-24 months.[2] During that period, and assuming the high levels of transmissibility already observed, it is estimated that 60-70% of the population would need to be infected, recover, and develop immunity "to reach a critical threshold of herd immunity to halt the pandemic.[2]" Current estimates are that even in highly affected areas such as Wuhan, China, and New York City, the total percentage of the population infected is between 3-10%. There is clearly significant potential for this virus to continue propagating.

There are, however, several factors that would affect those estimates. First, a successful vaccine could be developed in the near term, though, as noted above, that is unlikely based on historical precedent. Second, a successful treatment could be developed such that the "cost" of getting infected decreases, and overall mortality rates improve. Third, the virus mutates such that it is no longer as infectious or as dangerous. Historical rates of coronavirus mutation are much lower than influenza, however, and this outcome appears relatively unlikely in the near term. Or fourth, we institute and continue mitigation measures to help decrease the basic reproductive number and drive down transmission (e.g., social distancing).

Mitigation

The most effective method to decrease transmission rates in the absence of a vaccine or treatment is to prevent contact between persons for a period of time that includes a full incubation and recovery cycle (refer to current CDC guidance for duration). When this happens, transmission chains between persons can be broken, and the Ro for the virus within a specific population can be driven downwards. If Ro can be suppressed to less than 1, then each person is effectively transmitting the virus to less than one person, and the outbreak will die out on its own with sufficient time.

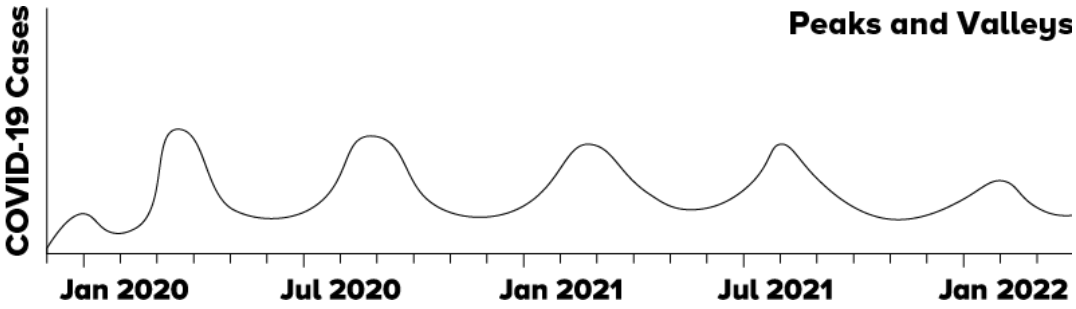
Such has been the national strategy for SARS-CoV-2 for the past several months. By effectively closing all sites of congregation, including schools, worksites, restaurants, places of worship, and social gatherings, an effort was made to decrease Ro. Difficulties

with coronavirus testing at scale, however, have made it difficult to accurately measure this figure on a national scale, and government leaders and emergency response officials have had to rely on imperfect data, including the number of persons hospitalized and intensive care unit utilization, as a proxy for this number.

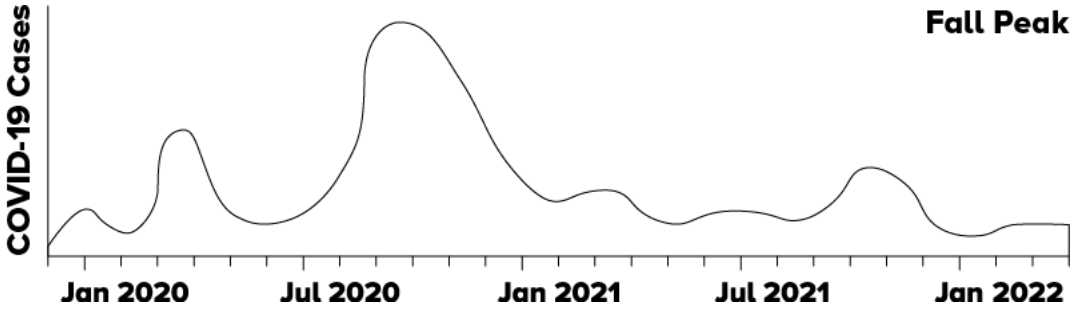
CORONAVIRUS PANDEMIC SCENARIOS

Based on the evidence detailed above, three possible pandemic scenarios could play out over the next 18-24 months, and each should be considered.[2]

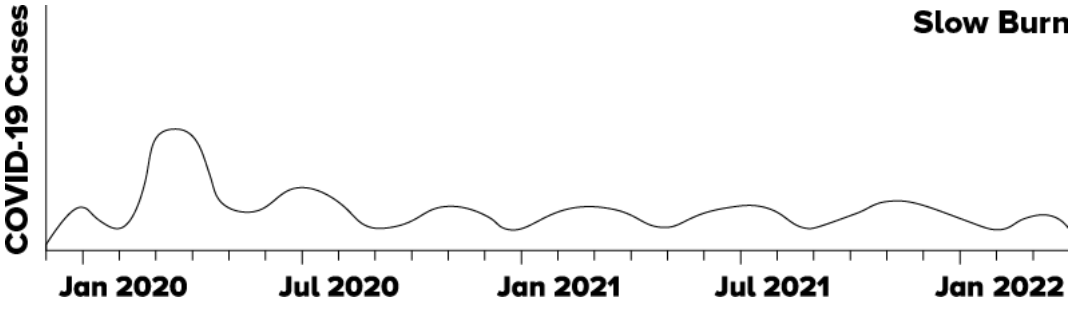
- **Peaks and Valleys:** The first wave of COVID-19 occurring in spring 2020 is a representative wave with several follow-on outbreaks of similar scale and duration.



- **Fall Peak:** The first spring 2020 wave of COVID-19 is a smaller wave with the second, more severe wave in fall 2020 following afterward.



- **Slow Burn:** The first wave in spring 2020 is the most severe wave, but the outbreak continues on a slow burn in the population at a low or moderate level.



Each of these scenarios includes waves that will vary by geographic location and require periodic mitigation measures when subsequent peaks develop. The duration of the peaks,

or how long a local outbreak lasts, will depend on the number of persons affected and how quickly the Ro can be reduced to 1 or less in the population. Reducing the Ro can only be achieved through early case identification, isolation of affected individuals, and isolation of affected contacts to prevent further spread.

Community Spread and School Operating Status

Within each of the pandemic scenarios above, the virus will manifest in local communities in one of three ways at any given point in time:

- **None to minimal:** defined as very few, if any, active COVID-19 cases locally, with a Ro significantly less than 1. This level of community spread corresponds to late Phase Three to Phase Four of the Roadmap for Reopening Nashville.

- **Minimal to moderate:** Ro is close to or equal to 1 with a significant amount of circulating disease in the given geographic area. This level of community spread corresponds to Phase Two to Three of the Roadmap to Reopening Nashville.

- **Substantial:** expected when case counts in Nashville have increased or accelerated rapidly, Ro is significantly greater than 1, and Metro leaders have decided to return to Phase 1 of the Roadmap to Reopening Nashville, or complete shutdown of the city.

The level of community spread and the basic reproductive number are the core public health inputs that should inform school leaders' decision-making relative to school reopening.

To determine the level of community spread, school leaders should plan to have weekly discussions with local public health officials and city leaders to determine whether the Ro is less than, equal to, or greater than 1, any trends under observation and whether there are plans to change the city's reopening phase status. In return, city leaders must plan to clearly communicate the level of community spread as well as the factors used to make that determination on a weekly basis.

To be clear, local health departments and city leaders cannot focus only on the number of cases and the basic reproductive number, but should also consider characteristics across four factors to fully determine community risk. These factors include:

- **Disease epidemiology:** level of community transmission, number and type of outbreaks, impact of the outbreaks on delivery of healthcare or other critical infrastructure or services, and epidemiology in surrounding jurisdictions

- **Community characteristics:** size of community and population density, level of community engagement/support, size and characteristics of vulnerable populations, access to healthcare, transportation, planned large events, and relationship of community to other communities

- **Local healthcare capacity:** healthcare workforce, number of healthcare facilities, testing capacity, hospital intensive care unit capacity, and availability of personal protective equipment

- **Public health capacity:** public health workforce and availability of resources to implement strategies, and available support from other state/local government agencies and partner organizations

SCHOOL OPENING SCENARIOS

Given the coronavirus pandemic scenarios and the manifestation of community spread, there are seven possibilities for school opening in fall 2020, and decisions should be based on the public health framework for reopening:

- Schools open on time and remain open.
- Schools open on time and are eventually forced to close statewide.
- Schools open on time, and there are subsequent school/community-based closures.
- Schools do not open on time but can open later in the academic year.
- Schools are unable to open on time and forced to remain closed for the academic year.
- Schools open earlier and end earlier in the fall.
- Schools open on time, but via a phase-in structure.

Public Health Framework for Reopening

	No to Minimal Spread	Minimal to Moderate Spread	Substantial Spread
Basic Reproductive Number	Ro < 1	Ro ~1	Ro > 1
Nashville Roadmap	Phase 4	Phase 3	Phase 0-2
Peak and Valley Pandemic Scenario	Schools Open	Situation Dependent	Schools Closed
Fall Peak Pandemic Scenario	Schools Open	Situation Dependent	Schools Closed
Slow Burn Pandemic Scenario	Schools Open	Situation Dependent	Schools Closed
	← Low ---------	← Virus Spread →	------- High →

From an epidemiological standpoint, schools will be able to open if Ro is less than 1 and remain open if transmission remains low. If Nashville experiences community spread of the virus on a widespread basis such that Ro is much greater than 1, then schools will likely be required to close to help break transmission chains. And if Ro remains close to 1, or spread is localized to very discrete areas, then closures become school- and situation-dependent.

CONCLUSION

This report establishes a framework to plan and implement a safe, efficient, and equitable return to school. While informed by evidence and global best practices, it is limited by the boundaries of scientific knowledge about the coronavirus. There remains epidemiological uncertainty, a lack of established precedent, and insufficient data to make recommendations that entirely remove risk from returning to school. It is likely that, despite implementation of all of the recommendations in this report and the safety protocol appendices that follow, educators and students may still be infected and develop COVID-19. The risk cannot be driven to absolute zero.

In those instances, there is clearly a risk calculus that will have to be considered by Metro Nashville government and education leaders. These risks will need to be communicated to the public so that an informed decision can be made on whether the benefits of returning to school outweigh the risks.

The recommendations provided within are in line with best practices being used in other countries and adapted to local circumstances in Nashville.[20]

Our hope is that this report provides those leaders with the information needed to make the difficult decisions ahead in the safest and most informed manner possible.

[20] https://www.centerforhealthsecurity.org/our-work/pubs_archive/pubs-pdfs/2020/200515-reopening-schools.pdf

PROTOCOL APPENDIX

Appendix A: Class Size/Spacing Requirements, Movement Operations

Class Size/Spacing

No to Minimal Community Spread

- Changes to class sizes and spacing unnecessary; can resume normal seating.

Minimal to Moderate Community Spread

- Arrange all desks facing the same direction toward the front of the classroom with as much space between them as possible.
- Students should either wear masks, use a physical barrier to the side of desks, or distance students six feet apart.
- Teachers should try to maintain six feet of spacing between themselves and students as much as possible, but should wear masks if closer than six feet.
- Classroom windows should be open when possible and conditions allow.
- Assemblies of less than 50 students at a time are discouraged but allowed as long as facemasks remain in use.
- Large-scale assemblies of more than 50 students should be discontinued.

Substantial Community Spread

- Schools are closed.

Movement Operations

No to Minimal Community Spread

- No changes in movement between classes are required.

Minimal to Moderate Community Spread

- Flow of foot traffic should be directed in only one direction if possible.
    - If one-way flow is not possible, hallways can be divided with either side following the same direction.
- Efforts should be made to try and keep six feet of distance between persons in the hallways.

- Face masks should be worn at all times in hallways.
- Staggered movements at incremental intervals should be used if feasible to minimize the number of persons in the hallways as able.
- Floor tape or other markers should be used at six foot intervals where line formation is anticipated.

Substantial Community Spread

- Schools are closed.

Appendix B: Protocols for Screening Students

At this time, the CDC recommends temperature screening of students upon entry only if feasible for the situation. Most larger schools will not be able to provide this screening for every student, though smaller schools may be able to do so. If any screening does occur, it should comply with privacy and HIPAA requirements. A feasible protocol would include:

No to Minimal Community Spread

- Students are allowed to enter/exit the building using normal procedures.
- Parents should check student's temperature at home every morning using oral, tympanic, or temporal scanners; students with a temperature 100.4 or above should stay home and consider coronavirus testing if no other explanation is available.
- Parents should ask their children or monitor for any cough, congestion, shortness of breath, or gastrointestinal symptoms every morning. Any positives should prompt the parent to keep the student home from school.
- Students sent home from school should be kept home until they have tested negative or have completely recovered according to CDC guidelines.

Minimal to Moderate Community Spread

- Students are allowed to enter the building at only 1-2 sites and must egress from other exits to keep traffic moving in a single direction.
    - Parents are not allowed in the school building except under extenuating circumstances; adults entering the building should wash or sanitize hands prior to entering, should practice social distancing, and should wear masks.
    - If there are extenuating circumstances that necessitate a parent entering the school, only one parent per child should be allowed to enter to minimize the number of entering persons.
    - Strict records, including day and time, should be kept of non-school employees entering and exiting the building.
- Parents should check student's temperature at home every morning using oral, tympanic, or temporal scanners; students with a temperature of 100.4 or above should stay home and consider coronavirus testing if no other explanation is available.
- Parents should ask their children or monitor for any cough, congestion, shortness of breath, or gastrointestinal symptoms every morning. Any positives should prompt the parent to keep the student home from school.
- If resources allow, schools can perform temperature checks on students once per day; febrile students should be sent to the nurse's office for transport home.

- Children who fall ill at school should be placed in an area of quarantine in the nurse's office with a surgical mask in place. Nurses should wear N95 masks when caring for these students.
- Students sent home from school should be kept home until they have completely recovered as defined by CDC guidelines.
- When students return to school, they should check in with the school administration to ensure proper communication with health officials.

Substantial Community Spread

- Schools are closed.

Appendix C: Testing Protocols for Students and Responding to Positive Cases

The CDC has specifically stated that schools are not expected to be testing students or staff for SARS-CoV-2. At this time, there are new antigen tests seeking approval by the Food and Drug Administration that would make point-of-care testing a possibility, but this is not expected to extend to schools or be performed by school nurses.

With that consideration, a feasible protocol would include:

No to Minimal Community Spread

- Students who develop fever or fall ill at school should be kept in an area of quarantine (nurse's office) with a surgical mask in place until they can be transported off campus. They should be transported by their parents, or ambulance if clinically unstable, for offsite testing. In the event that any student tests positive, immediate efforts should be made to inform any close contacts (those who spent more than 10 minutes in close proximity to the student) so that they can be quarantined at home. Classmates should be closely monitored for any symptoms. At this time, empiric testing of all students in the class is not recommended; only those who develop symptoms require testing.
- Parents should be notified of the presence of any positive cases in the classroom and/or school to encourage closer observation for any symptoms at home.
- Parents should check student's temperature at home every morning using oral, tympanic, or temporal scanners; students with a temperature of 100.4 or above should stay home and consider coronavirus testing if no other explanation is available.
- Parents should ask their children or monitor for any cough, congestion, shortness of breath, or gastrointestinal symptoms every morning. Any positives should prompt the parent to keep the student home from school and seek out testing.
- Students sent home from school should be kept home until they have tested negative or have completely recovered according to CDC guidelines.

Minimal to Moderate Community Spread

- Students who develop fever or fall ill at school should be kept in an area of quarantine (nurse's office) with a surgical mask in place until they can be transported off campus. They should be transported by their parents, or ambulance if clinically unstable, for offsite testing. In the event that any student tests positive, immediate efforts should be made to inform any close contacts (those who spent more than 10 minutes in close proximity to the student) so that they can be quarantined at home. Classmates should be closely monitored for any symptoms.

At this time, empiric testing of all students in the class is not recommended; only those who develop symptoms require testing.

- In the event that a student or adult tests positive, the school will contact Metro Nashville Health Department. The Metro Nashville Health Department (or the county public health department of the student's residence) will contact close contacts (those who spent more than 10 minutes in close proximity to the student) so that they can be quarantined at home. Classmates should be closely monitored for any symptoms. At this time, empiric testing of all students in the class is not recommended; only those who develop symptoms require testing.
- Parents should be notified of the presence of any positive cases in the classroom and/or school to encourage closer observation for any symptoms at home. Parents should check student's temperature at home every morning using oral, tympanic, or temporal scanners; students with a temperature of 100.4 above should stay home and consider coronavirus testing if no other explanation is available.
- Parents should ask their children or monitor for any cough, congestion, shortness of breath, or gastrointestinal symptoms every morning. Any positives should prompt the parent to keep the student home from school and seek out testing.
- Students sent home from school should be kept home until they have tested negative or have completely recovered according to CDC guidelines.

Substantial Community Spread

- Schools are closed.

Responding to Positive Tests Among Staff and Students

- In the event of a positive test among staff or a student, the classroom or areas exposed should be immediately closed until cleaning and disinfection can be performed.
    - If the person was in the school building without a face mask, or large areas of the school were exposed to the person, short-term dismissals (2-5 days) may be required to clean and disinfect the larger areas. This decision should be made in concert with the local public health department.
- If possible, smaller areas should be closed for 24 hours before cleaning to minimize the risk of any airborne particles.
    - Cleaning staff should wear an N95 respirator when cleaning these areas along with gloves and face shield.

Appendix D: Protocols for Dining, Gathering, and Extracurricular Activities

Dining

No to Minimal Community Spread

- Students, teachers, and cafeteria staff wash hands before and after every meal.
- Meal activities continue per normal operating procedures.

Minimal to Moderate Community Spread

- Students, teachers, and cafeteria staff wash hands before and after every meal.
- If possible, classrooms should be used for eating in place.
- Students may bring food from home.
- School-supplied meals should be delivered to classrooms with disposable utensils.
- If cafeterias need to be used, mealtimes must be staggered to create seating arrangements with six feet of distance between students.
    - Disposable utensils should be employed and presented per child (instead of children reaching and selecting them themselves).
    - Serving and cafeteria staff should use barrier protection, including gloves, face shields, and surgical masks; N95 respirators are not required.
    - Open selection of food (salad bars, self-serve stations) should be closed or manned by an adult to avoid multiple surface touches.

Substantial Community Spread

- Schools enact offsite food programs.

Gathering and Extracurricular Activities

No to Minimal Community Spread

- Students and teachers wash hands before and after every event.
- Large-scale gatherings are allowed per normal operating status.
- Extracurricular activities and gatherings conducted normally.
- After-school programs are open and operating normally.

Minimal to Moderate Community Spread

- Assemblies of less than 50 students at a time are discouraged but allowed as long as facemasks remain in use.

    - Parents and grandparents are not allowed to attend these assemblies; schools will offer telecasting of events if able.
- Students and teachers wash hands before and after every event.
- Large-scale assemblies of more than 50 students should be discontinued.
- Off-site field trips are discontinued.
- Inter-school activities may continue as long as bus transportation is provided and students wear masks throughout the transport period.
    - Schools may elect to discontinue these activities if Ro and community transmission rise consistently.
- After-school programs may continue with the use of face masks
    - Schools may elect to discontinue these activities if Ro and community transmission rise consistently.

Substantial Community Spread

- No on-site activities are allowed.
- All inter-school activities are discontinued.
- After-school activities and childcare are closed.

Appendix E: Protocols for Athletic Activities

No to Minimal Community Spread

- All activities are allowed to continue per normal procedures.
- Spectator events are allowed per normal procedures.

Minimal to Moderate Community Spread

- Only sports that can be modified to allow physical distancing for conditioning are allowed to continue, preferably outside. Off-site, inter-school competitions may be held provided that face masks are worn during transportation.
    - Spectators fewer than 50 are allowed provided that face masks are used by observers at all times.
    - Large-scale spectator events with more than 50 people are not allowed.
    - Schools may elect to discontinue these activities if Ro and community transmission rise consistently.
- Schools should consult with public health officials and school sports governing bodies for the current public health guidance on sports with close contact.
- Students, teachers, and staff wash hands before and after every practice, event, or other gathering.
- Weight room and physical conditioning activities should only be used with proper social distancing in alignment with the Reopening Nashville Roadmap.
- Locker rooms and group changing areas should be closed unless social distancing may be observed.
- Any uniforms or other clothing that need to be washed/laundered at school can be washed in warm water with regular detergent.

Substantial Community Spread

- All athletics are suspended.

Appendix F: Personal Protective Equipment and Cleaning Protocols

Use of physical distancing measures is designed to create layers of redundancy, recognizing that students are unlikely to be able to maintain full compliance at all times. They are designed to minimize the risk of transmission as much as possible while still allowing for feasibility, flexibility, and ease of use.

Use of Personal Protective Equipment and Hand Washing

No to Minimal Community Spread

- No personal protective equipment is required.
- Regular use of hand sanitizer and hand washing per normal operating status.

Minimal to Moderate Community Spread

- All staff and students should wear face masks when they are in common areas, including moving between classrooms; masks may be homemade or disposable level one (basic) grade surgical masks; N95 respirators are not necessary, except for nurses and custodial staff cleaning and disinfecting an area exposed to a positive case.
- Students should wash their hands or use hand sanitizer after changing any classroom; teachers in the classroom should wash their hands or use sanitizer every time a new group of students enters their room.
- Students and teachers should have scheduled hand washing with soap and water every 2-3 hours.
- Privacy or barrier screens may be placed at the side of desks in classrooms.
- Gloves are not required except for janitorial staff or teachers cleaning their classrooms.
- Gowns, hair coverings, and shoe covers are not required.

Substantial Community Spread

- Schools are closed.

Cleaning Protocols

Coronaviruses on hard surfaces can survive for hours to days. Exposure to sunlight and higher temperatures is expected to diminish their survival, but the exact amount of time required remains unclear. At this point, more aggressive cleaning practices are recommended in order to err on the side of caution.

No to Minimal Community Spread

- School campuses should undergo cleaning on an increased tempo.
- Frequently touched surfaces, including lights, doors, benches, bathrooms, etc., should undergo cleaning with either an EPA-approved disinfectant or dilute bleach solution frequently, no less than daily.
- Libraries, computer labs, arts, and other hands-on classrooms should undergo cleaning with either an EPA-approved disinfectant or dilute bleach solution frequently, no less than daily.
- Efforts should be made to minimize sharing of materials between students as able.
- Student desks should be wiped down with either an EPA-approved disinfectant or dilute bleach solution frequently, no less than daily.
- Playground equipment and athletic equipment should be cleaned with either an EPA-approved disinfectant or dilute bleach solution frequently, no less than daily.
- Staff should wear gloves, surgical mask, and face shield when performing all cleaning activities.

Minimal to Moderate Community Spread

- Routine cleaning with standard soap and water removes germs and dirt and lowers the risk of spreading SARS-CoV-2.
- School campuses should undergo normal cleaning on a daily basis.
- Frequently touched surfaces, including lights, doors, benches, bathrooms, etc., should undergo cleaning with either an EPA-approved disinfectant or dilute bleach solution (⅓ cup bleach in 1 gallon of water) at least twice daily.[21]
- Libraries, computer labs, arts, and other hands-on classrooms should undergo standard cleaning procedures per normal operating status.
- Student desks should be wiped down with either an EPA-approved disinfectant or dilute bleach solution at the beginning and end of every day.
- Playground equipment and athletic equipment can be cleaned with either an EPA-approved disinfectant or dilute bleach solution twice daily.
- Staff should wear gloves, surgical mask, and face shield when performing all cleaning activities.

Substantial Community Spread

- Schools are closed and cleaning practices adjusted to maintain school buildings in clean and well-functioning order.

[21] https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Appendix G: Busing and Student Transportation

The risks associated with student transportation in buses have not been studied to date. As a result, these recommendations are derived from school operating procedures and the best “reasonable standard” given feasibility constraints.

No to Minimal Community Spread

- School busing operations proceed normally.
- No changes to schedules or seating patterns on the buses are required.

Minimal to Moderate Community Spread

- Face masks should be worn by all staff and students at all times.
- Windows should be open when possible and conditions allow.
- Unloading of buses at school should be staggered to minimize mixing of students as they enter school and to allow six feet of distance while entering through designated entry points.
- Seats and handrails should be wiped down with either an EPA-approved disinfectant or dilute bleach solution before and after every ride.

Substantial Community Spread

- All busing operations are suspended.

Appendix H: Protocols for Serving Medically Vulnerable Students and Teachers

Understandably, a key concern is whether certain populations of students, teachers, and other employees may be at increased risk of infection and severe disease by attending school in person. These high-risk groups include but are not limited to persons with:

- People 65 years and older
- People of all ages with underlying medical conditions, particularly if not well controlled, including:
- People with chronic lung disease or moderate to severe asthma
- People who have serious heart conditions
- People who are immunocompromised
- Many conditions can cause a person to be immunocompromised, including cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids and other immune weakening medications
- People with severe obesity (body mass index [BMI] of 40 or higher)
- People with diabetes
- People with chronic kidney disease undergoing dialysis
- People with liver disease

Unfortunately, there is no validated data on how much risk these individuals incur by attending school in person, and individuals will need to make the decision to attend in close consultation with their health care provider. A reasonable protocol may include the following, however:

No to Minimal Community Spread

- All students and staff are able to attend school and activities normally.
- If they choose to do so, staff and students may self-identify as having a high-risk medical condition to school staff for planning purposes in the event of an outbreak.

Minimal to Moderate Community Spread

- High-risk staff should consider teaching lessons remotely.
    - If able, high-risk teachers should be made aware of additional protective equipment options as well as alternative assignments.
- Parents may elect to keep children with underlying health conditions at home and pursue education through remote learning.

- Ultimately, individual decisions to attend school in person will be left to parents, students, and staff.

Substantial Community Spread

- All teaching should be moved to videoconferencing platforms.
- Schools should enact abbreviated teaching schedules that allow core subject matter to be transmitted on a regular basis. Elective material may be discontinued at school discretion.