



SCHOOL OF MEDICINE
DEPARTMENT OF PEDIATRICS
COMMUNITY PEDIATRICS / SCHOOL HEALTH

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August 9, 2020

Cindy Marten, Superintendent
San Diego Unified School District

Kisha Borden, President
San Diego Education Association

RE: UCSD EXPERT SCIENTIFIC PANEL for COVID-19

Dear Ms. Marten and Ms. Borden,

This report summarizes the written advice of nine UCSD experts¹ in various fields of expertise related to the COVID-19 pandemic. As you know, these experts were selected by UCSD's Chancellor Pradeep Khosla and were introduced (via a video-call) to SDEA and District leaders on July 29th. The panel was invited to respond to written questions prepared by SDEA and the District this past week. Each panelist was asked to respond only to those questions they felt were in their field of professional expertise.

This report consists of: (a) a summary of the experts' responses to each issue, and (b) recommendations made in my capacity as medical consultant to this district and a UCSD expert in the field of school health. The summary and my recommendations are grouped into three sections:

- A. School Re-opening
- B. Disease Mitigation Strategies
- C. School Closure

My recommendations, and those of the UCSD experts, are a 'moment in time', insofar as they reflect present-day knowledge of how this virus is transmitted as well as the current disease incidence and resources available in San Diego County.

Respectfully yours,

A handwritten signature in blue ink, appearing to read "Howard Taras", with a long horizontal line extending to the right.

Howard Taras, MD
UC-San Diego Pediatrics (School Health)
Physician consultant, San Diego Unified School District

¹ John Bradley, MD; Kimberley Brouwer, PhD; Richard Garfein, PhD; Natasha Martin, DrPh; Kimberly Prather, PhD; Mark Sawyer, MD; Robert Schooley, MD; Davey Smith, MD; Stephen Spector, MD;



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SUMMARY REPORT AND RECOMMENDATIONS; UCSD EXPERT SCIENTIFIC PANEL (COVID-19)
For SAN DIEGO UNIFIED SCHOOL DISTRICT
August 9, 2020

A. School Re-Opening

A minority of experts felt that using only the state (CDPH) criteria for getting off of the “monitoring list” of counties would be sufficient. Those criteria are: 14-day case rate of <100/100,000; a 7-day testing positivity rate of <8%; fewer than 10% increase in the average number of confirmed COVID-19 patients hospitalized; and availability of >20% of staffed ICU beds and of >25% of ventilators. However, since the state standards do not account for contact tracing metrics, there was broader support from these experts for adding these conditions as set out by the County (“Triggers for Modifying Health Officer Order”). The more rigorous standards include: fewer than 7 outbreaks over a 7-day period; more than 70% of investigations are initiated within 24 hours of notification of a positive case (also over a 7-day period); and contact tracers make a first contact attempt for more than 70% of close contacts of new positive cases within 24 hours of identification. The County also has conditions related to illness trajectory, PPE supply, and shelters for the homeless. [https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.pdf] As for opening in phases, most experts felt it was wise to open elementary schools first, followed by secondary schools.

A. Reopening criteria. Taras’s recommendations: *The district should follow all San Diego County “[Triggers for Modifying Health Officer Order](#)” to open schools, which encompass both State and County criteria. The strength in these new standards comes precisely from this combination of factors. I ask the District to consider a phased-in approach, perhaps starting with several schools within any cluster. This could help district leadership (e.g., health and wellness, counseling, administration, etc.) be more available to support the application of disease mitigation practices that are unfamiliar to many, as well as to assess the success of staff training for these practices, to monitor compliance, and make adjustments if necessary. School nurses typically assist with school-associated case contacting on behalf of the local health department for any reportable disease, and having nurses continue in this role with COVID-19 should be one condition of re-opening schools in this district, especially if our County’s contact tracing goal is shy of its desired benchmark. Among all State/County triggers, if local health department contact tracing goals are not achieved, but county case rates are low, then I am not opposed to the presence of some students on campus with several conditions in place. First, begin with small numbers of schools and staff members per school as well as small numbers of students per class (e.g. <25% of typical capacity). By starting with small populations and few schools, it will be logistically easier and relatively quick to assure safety. Another condition should be that the strategies to contain disease spread must be exemplary (e.g., excellent ventilation, PPE supplies, signage).*

I agree with my UCSD colleagues that elementary schools should open first. As a physician with some expertise in child developmental issues, I also recommend prioritizing student populations that have the greatest difficulty with online education, once at least the State (CDPH) benchmarks have been met.

B. Disease Mitigation Strategies to Protect Health and Safety (for on-site education).

Taras’s note on Mitigation Strategies: *Questions to, and responses from, the UCSD experts in this field were*

often categorized into separate disease mitigation strategies, but the interplay of these strategies and the fluctuating relative importance of any one, must be kept in mind. Disease mitigations covered here include: availability of virus testing, wearing of face masks, physical distancing, duration of close contact, PPE, symptom screening, physical setup (i.e., room ventilation, signage and physical barriers) and hygiene. There are circumstances where one strategy is simply not possible to put into place. For some of those, it may still be safe for all parties involved if other mitigation strategies are in place and optimally practiced. Some mitigation strategies are likely to remain essential until there is herd immunity in our region (e.g., face masks). Others may be dropped or added as disease incidence changes in this region and as science advances and understanding of how the virus spreads is enhanced.

B(i) Testing. One's interpretation of "Testing" can encompass several different possibilities. One is that there will be a virus testing program (antigen or RNA/PCR) that targets asymptomatic staff (and even students) for purposes of either individual assurance or for surveillance. Surveillance can be achieved via individual samples, pooled samples, or even wastewater collection. Another interpretation of "Testing" is having a test for the virus (generally the PCR/RNA test) available for those staff (and students) who develop symptoms or who were recently exposed to a known positive person. Testing can also mean "re-testing" after one is positive, to determine if it is safe to return. The experts' answers to "testing" covered different elements of these possibilities:

For serial routine testing of asymptomatic people, it was pointed out that this could lead to positive tests for those who are infectious (leading to warranted isolation), but also positive tests for those who had the disease previously and are no longer infectious. As the latter group could not be distinguished from the former, they would be isolated unnecessarily for a minimum of 10 days. Modeling has shown benefits of testing asymptomatic University communities monthly. It would reduce transmission, identify outbreaks early and reduce outbreak size. Routine, serial testing of asymptomatic individuals would be a higher standard than most healthcare settings, and a disadvantage would be that it would drain the supply of testing materials for those who have symptoms. Pooled testing and wastewater testing are in research phases and of uncertain value, but potentially worthwhile, especially pooled testing. It was suggested that the school district partner with UCSD on the matter.

For those with symptoms. Availability of testing for staff (and students) with symptoms was less controversial among the experts. It was felt that such testing should be coordinated with existing testing facilities (e.g., county health department or UCSD). Availability of testing and subsequent contact tracing were felt to be an essential component of safety for members of the school community.

Retesting individuals who are positive. No expert felt this was a worthwhile tool. Return to work/learning should be based on a minimum required days of isolation and improved symptoms (CDC definition), not on a negative retest.

B(j) Testing. Taras's recommendations: *Viral tests (RNA/PCR) should be available to all members of the school community who are symptomatic, and this testing should be in cooperation with each individual's own health care provider and/or as part of a district agreement with a health system (County health department, Rady Children's UC-San Diego; community clinics, etc).*

Serial testing of asymptomatic school staff or students is still of unknown value (whether by individual tests, wastewater, or pooled; PCR or Antigen). I recommend that it become a district function only if it is coordinated with an academic agency as part of a research study to determine its value. Outside of research, district-organized, serial, PCR testing of asymptomatic staff or students should not occur until the local region has met the testing needs of individuals countywide (including school community members) who have symptoms. Met needs includes quick access to tests, adequate supplies (eg, reagent) and brief result-reporting turnaround time. This recommendation is consistent with the Framework for K-12 Schools in California regarding school staff which explains that testing of staff occur "periodically by their primary care provider or by referring teachers to a community testing site, as testing capacity permits and as practicable." In my opinion, reopening school sites for education should not be contingent upon the existence of a serial testing program for asymptomatic staff as long as county-wide COVID-19 case rates, testing positivity rates, and case contact tracing ability are at levels that keep this County off of a monitoring list (as described above in

B(ii) Transportation. The school bus is an enclosed space and its ventilation challenges differ from other indoor spaces. Normally, school buses are very dense with school children. UCSD experts were questioned on how to best protect children from one another and protect adults in the bus. Most of our experts felt face coverings were necessary to be in a bus, and a minority felt face shields with drapes would be an adequate substitute for children who could not tolerate a face covering. Some felt that 6-foot distancing, not 3 feet, would be necessary and that it was not possible to have windows open in all weather conditions.

***B(ii) Transportation: Taras's recommendations:** This process has convinced me that nothing short of a proper face mask is acceptable if a student is to be on a school bus, and that a face shield (even with a drape) is not a reasonable substitute. Detailed discussions of this issue with several experts at the County Health and Human Services Agency led us to the conclusion that 3 foot distance will be safe, but only when all windows are open, all students are facing the same direction and loaded from back to front, and students are supervised to keep their face coverings on properly and in their assigned seats. Shared bus rides will be considered a cohort (similar to a classroom). The District must document each trip's seating map to identify contacts many days later, if someone on the bus becomes positive or presumptively positive for the virus. Other details of the transportation plan (protection of driver and other adults; fastening wheel chairs, etc) will be provided in another document.*

B(iii) Ventilation. Questions for the UCSD expert team focused on fresh air versus HVAC systems, HEPA room purifiers, the value of filters less than MERV 13, and the role of fans to circulate air. Mechanical or natural ventilation are both good options, as long as they bring fresh air into the room. Using filters higher than the current MERV 8 (current status in many rooms) but lower than MERV 13 would not be worthwhile. Rooms that do not have good natural ventilation and no MERV 13 in the HVAC system should be equipped with portable air cleaners, and the district now has calculation methods for the 'clean air delivery rate' (CADR) for any room. Fans that merely circulate indoor air should not be used, and when fans are used, they should be directed to pull in fresh air.

***B(iii) Ventilation. Taras's recommendations:** Each classroom and all shared office space should be evaluated for its ventilation status (as per above recommendations) and modified if necessary before it is used for class teaching. Rooms with inadequate ventilation can be used for storage, or for single-person use.*

Teaching outdoors or in well-ventilated rooms that are not normally used for this purpose should be explored as either temporary or permanent alternative to some indoor classrooms.

B(iv) Distancing. It was pointed out (via mathematical modeling) that reducing student time on campus can greatly lengthen the time before new infections at school are identified. On the issue of social distancing (six versus three feet), it was pointed out that 6 feet is the national standard in the USA and is an ideal; 3 feet (one meter) is the standard in many other nations. Physical barriers between students who are 3 feet apart was felt to be a reasonable alternative by some expert respondents to protect students from droplet spread, with conditions: children must be well supervised, sitting consistently within barriers, and all present in the room wear masks at all times. A 3-foot distance with a barrier is not completely effective against aerosol-based spread, however. For this reason, some panelists felt that a problem with 3 foot distancing was that it increases room density and can lower general air quality, even with clear barriers between students. This may only be a safe alternative once community incidence rate of COVID-19 is low (no specific figures to define 'low').

As it pertains to restroom, if there is more than one person inside, then 6 foot physical distancing should be adhered to and masks worn at all times. Restrooms can use hand dryers, not just paper towels. Eating is safest outdoors. When indoors, keep students at 6 feet minimum distance and, if possible, reduce talking while eating. When it comes to young students who cannot socially distance, risks will be reduced with wearing masks and adhering to other precautions. Try to keep all children, including those in cohorts, physically distanced and quarantine all children in the cohort who were closer, if one becomes infected with the virus.

B(iv) Distancing. *Taras's recommendations:* When schools reopen, initially keep students at 6-foot distances when they are moving about class or school and when seated in classrooms. Physical barriers are recommended between students to allow them to sit facing one another (e.g. classrooms with rectangular or round tables).

Research has confirmed that this disease is present in droplets (which fall quickly to ground) as well as aerosol form (small particles that can remain suspended in the air for many hours, especially with poor ventilation). Some situations (i.e., a poorly ventilated restaurant, a choir) have demonstrated that aerosol can cause disease transmission. It is also true that rates in households, shared meals, and in the community indicate that transmission through aerosol is less common.

Once the incidence of COVID-19 is significantly reduced (I will posit this now at 25 cases per 100,000 over 14 days; estimate subject to change), reducing the importance of room density, having barriers between students will remain an effective method to prevent student-to-student transmission and allow 3 feet between students, just as has been successfully done in schools in numerous foreign countries for many consecutive months. However, when desk barriers are used and students are closer than 6 feet, room ventilation must be optimum and students cannot remove their masks or come around the barriers. Supervise them to adhere to this.

Masks must, obviously, be removed for eating, so when students are closer than 6 feet in a classroom with barriers, I recommend that only half of students in that class should eat simultaneously at their desks, to get to the 6 feet. The others can eat in another location or at a separate time. Keep classroom maps of seating arrangements, in case there is a positive for COVID virus.

Classroom/office staff must always be stationed 6 feet from any student and from one another, barrier or not. Educational staff who wish to assist a student face-to-face, must be certain that such contact is brief (e.g., <5 minutes) and that both the student and teacher have their masks on properly. The teacher can add a face shield for such encounters. When longer duration is necessary (e.g., therapy, special education, toileting), then more protective personal protective equipment is required (see PPE, below).

Restrooms need to be marked outdoors for the maximum number of users, have middle sinks or latrine blocked off to maintain 6 feet distancing. Restroom uses can continue to use either hand dryers or paper towels.

The purpose of "cohorts" is to reduce the number of people who have to quarantine, when one person becomes infectious with this virus. Placing groups in cohorts does not imply relaxation of face masking or distancing.

Staff in any school or other building must not meet in person, only online, and they must follow the same distance restrictions when sharing space for meals, as students (i.e., outdoors preferred, never closer than 6 feet; avoid talking). The risk of off-campus gatherings must also be emphasized to students and parents. Such breaches are also important information for contact-tracing.

B(v) Disinfecting. Most felt playground equipment could be used as long as students washed their hands before and after use. Equipment should be cleaned at least daily, as UV Light cannot be a reliable cleanser during brief periods of light after school. Precautions about kids being closer than 6 feet (often yelling, laughing, etc) need to be taken. Balls, other play equipment, food, water bottles, backpacks, desktops, books and such are okay if they are only handled by one person, unless sanitized between uses.

B(v) Disinfecting. *Taras's recommendations:* Allow playground equipment only if it is cleaned between cohorts (i.e., classes) and at least once daily, and if hand sanitizer or handwashing occurs before and after use. Handrails on stairs and ramps should be cleaned at least daily, but make sure students use hand sanitizer (or wash hands) before entering campus, and after leaving classroom. Nightly disinfect all items

in classrooms and touchable objects within; more often if classroom is shared by two or more groups of students in same day. Hygiene should be taught in class. Ample supplies of hand sanitizers, sinks and/or handwashing stations should be available in strategic places on campus and in office buildings to facilitate hand washing after sneezing/coughing, before entering and exiting any room, when putting on masks and other PPE.

B(vi) Face Coverings/ Masks. Most panelists felt masks or other face coverings should be mandatory from K through 12, unless eating and when exercising outdoors. Face shields can be used to enhance - not replace - these face masks. Other countries have demonstrated the ability of even those in these youngest grades to tolerate masks all school day, with outdoor breaks and eating breaks. One expert emphasized a need to enforce this. Children with chronic health conditions need to wear face coverings or masks. Students whose chronic condition puts them at danger of severe disease would need to have online education. Face coverings will likely be necessary until there is herd immunity (i.e., likely via a vaccine).

B(vi) Face Coverings/Masks. Taras's recommendations: *All adults and children in school buildings need to wear a face covering or mask, unless eating, or the person is alone in a room. When eating indoors, physical barriers and 6+ foot distancing are required. Mask breaks are to occur outdoors only, and at 6-foot distances. Face shields (with or without a drape) are not substitutes for a mask, but they may supplement a mask in many situations to protect that person from others' droplets.*

Education of how to wear a face covering (covering nose, mouth, chin) should be provided. Masks with valves should not be permitted, unless that valve is also covered with a cloth.

A parent or a student's doctor may notify the school that a student will have problems wearing a mask. Although students who cannot wear a mask for reasons of behavior, anxiety or hypersensitivity will not attend school, an educational assessment will be done so that mask-wearing becomes a goal of online learning, opening up the likelihood that this student can attend in-school educational setting in the future.

Students who cannot wear a mask because they are developmentally under age 2 years, do not have the orthopedic capacity to remove the mask, or have another condition that is not amenable to a mask-wearing educational goal, can still receive online learning and can receive in-person services (e.g., assessments) by staff if it is for a brief duration and that staff person is wearing full PPE (surgical-style mask, face shield, gown, gloves, etc.). Preferably, these encounters will be conducted outdoors. If not, then in a well-ventilated room.

Students whose underlying health condition is suspected of putting them at risk for serious illness may be asked to bring in a note from their physician that states either: (a) the student is safe to be in a school setting or (b) the parents/guardians were explained the risk for serious ramifications of infection, the explanation was understood, and the parent/guardian accepts that risk. For students over age 18, the physician's note must also specify that the student also accepts that risk.

B(vii) Screening and Temperature. In general, the expert panel felt that a temperature threshold of 100.4 was better than a temperature threshold of 100.0. None were very enthusiastic about the value of screening children at school for fevers daily, given the scheduling ramifications and the risk for overcrowding of those students who failed the initial screen while awaiting a second screen.

B(vii) Symptom screening and Temperature. Taras's recommendations: *County of San Diego HHSA prefers a temperature threshold of 100.0, versus 100.4. I recommend we follow the 100.0 guidance until that is changed (but opt for 100.4 if given a choice). Staff members are more apt than children to present with fever with COVID and should get temperature screening when arriving at school or the office (which is*

currently a regulation). Parents will be reminded to check students' temperature at home, but this will not be re-checked in school at this time, unless a fever is suspected. Symptom screening questions of students can occur either on a school site (for students capable of giving valid responses), or at home using a written checklist and completed by parent and brought to school in paper form or sent electronically via an app. All staff should be aware that students who seem under the weather need to report to the health office, and this visual check should be done daily during the first period by the classroom teacher or designee, in compliance with regulations.

B(viii) Quarantine and Mitigating Spread of Suspected Positive. An outbreak is typically 3 cases within a two week period in any common location. For COVID-19, this is recognized for as few as two cases. Educate families of students with symptoms that other family members may be asymptomatic and they may need to be quarantined for two weeks. A negative test of a household member of a COVID-19 positive staff or student does not mean that person is clear to return to work or school. Quarantine is for 14 days. One expert pointed out that periodic asymptomatic testing can identify outbreaks early and facilitate isolation/contact tracing of those who contacted someone found to be positive. One doctor felt that school nurses, not other health office personnel, should determine whether a student's symptoms were consistent with a preexisting condition (versus a possible sign of COVID-19).

B(viii) Quarantine and Mitigating Spread of Suspected Positive. Taras's recommendations:

Isolation: All students and staff with symptoms will be sent home that day. Only staff and students with known allergies, headaches (etc.) whose symptoms were anticipated for other reasons will be permitted to remain in school. Staff and students will be permitted to return to work/school once they clear the CDC's isolation criteria (currently 10 days minimum for individuals without immune disorders, plus no fever without medications for 24 hours and symptoms have improved). The only exception is if that individual receives a negative PCR virus test and proof is presented to the school (test result, type of test, and date) that individual may return as early as 72 hours after fever and symptoms have resolved. Those with immune deficiencies or severe disease: minimum 20 days.

Quarantine: The school community (or other cohorts, such as bus mates or sports team) will receive a courtesy notice whenever a person is positive for this virus, without identifying that individual. For those documented as having been "close contact" with a COVID-positive member of the school community, their names will be sent to County HHSA Epidemiology and they will be asked to quarantine for 14 days after their most recent contact. These people on quarantine will not be given the name of the virus-positive person at school with whom they were in close contact.

B(ix) Personal Protective Equipment. For most school situations, hygiene, masks and social distancing are felt by the UCSD experts to be adequate when in close contact with students, without regard to age. Eye protection (e.g, face shield or goggles) will be necessary for staff who come to close contact with body fluids of a student (diapering, feeding, etc).

***B(ix) Personal Protective Equipment. Taras's recommendations:** In addition to masks and face shields for those who have anticipated contact with stool, urine, saliva, blood of students, disposable gloves and gowns should be provided. For health office staff who are assessing and managing with students with symptoms, they will be given fit-tested N95 masks (as available), as per Cal-OSHA regulations.*

B(x) Other questions that were answered by the Expert Panel:

In response to whether reducing staff and student time on campus would reduce transmission, the answer was yes, with some evidence of this from medical literature.

In response to considerations for educators who live with family members at risk for serious disease, UCSD experts felt that they can come to school if they wear the maximum PPE available.

B(x) High risk for Serious Illness. Taras's recommendations: I recommend that any staff member whose own health or the health of a household member puts them at higher risk for serious disease, may request and receive personal protective equipment above and beyond a face mask. This may include, gloves, face shield, disposable gown, and a surgical-style mask (or even an N95 or equivalent, if community supplies are ample.)

C. School Closure

Two experts expressed opinions on school closure. One pondered whether it should be based on countywide data or just the zip codes near to the school and where staff/students reside (potentially closing more schools that have many minorities with health disparities). One felt that all schools should be closed based on the same “monitoring list” criteria that is being used to determine when all schools can safely open.

[\[https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.pdf\]](https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.pdf)

C. School Closure. Taras's recommendations: The baseline for school closure will be what is recommended by the local health department.

The state (CDPH) currently suggests closing a school when there are multiple cases in multiple cohorts, or when at least 5% of the total number of teachers/student/staff are cases within a 14-day period. But this depends on the size and physical layout of the school. An entire school district may need to be closed if 25% or more schools in a district have closed due to COVID-19 within 14 days. CDPH recommends that these are guidelines and all closures should be following consultation with the local health officer.

I recommend that this school district should feel it can take additional precautions and close a school (or district), even if not directed to do so by the local public health officer. These closures could depend on multiple factors such as: (i) adherence level of recommended precautions (face masks, distancing, ventilation of rooms, eating and meeting history, etc.); (ii) the level of disease, contact tracing, and testing capacity in the region of the school and where school members reside; (iii) new understanding of how the disease spreads or is contained; (iv) convening of additional experts from academia or elsewhere.

BIOS OF UCSD EXPERTS



Richard Garfein, PhD, MPH, MD (Global Public Health) Professor

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Dr. Garfein is an infectious disease epidemiologist, educator and healthcare innovator who seeks to understand the causes of disease and translate that understanding into impactful solutions.

Dr. Garfein earned his PhD at Johns Hopkins University and MPH at San Diego State University. He served as an Epidemic Intelligence Service Officer and Epidemiologist for 7 years at the Centers for Disease Control and Prevention before joining the UC San Diego School of Medicine faculty in 2005.

Dr. Garfein's research focuses primarily on airborne and bloodborne infections often associated with health disparities and substance use, including tuberculosis, HIV and viral hepatitis in the U.S. and abroad. His research on digital adherence technology over the last decade informed CDC and WHO guidelines on the use of telehealth for remotely monitoring patients with tuberculosis. Such technology has relevance today for COVID-19 monitoring and patient support.



Kimberly Brouwer, PhD (Global Public Health)

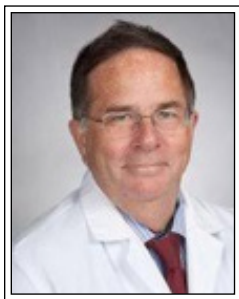
Professor and Vice Chair for Public Health Education,
Department of Family Medicine & Public Health,
University of California, San Diego

Dr. Brouwer is a professor and infectious disease epidemiologist with expertise in applying both qualitative and quantitative methods to developing new approaches to public health challenges. A recurrent theme of her research has been to explore the effect of mobility and marginalization on transmission and diffusion of infectious diseases. She further explores the effect of environmental, structural, spatial, and social factors on access to preventive and medical services. Dr. Brouwer originally earned her Ph.D. in molecular epidemiology from the Johns Hopkins University School of Hygiene and Public Health. Prior to her appointment at UC San Diego, she worked as an Emerging Infectious Diseases fellow and researcher at the U.S. Centers for Disease Control and Prevention. Dr. Brouwer teaches a core course for the UC San Diego Bachelor of Science in Public Health (Epidemiology 101) and Infectious Diseases & Emerging Trends (FMPH 418) in the Masters of Public Health program.



Cheryl Anderson, MD (School of Public Health)

Dr. Anderson is Professor and Dean of the University of California San Diego Herbert Wertheim School of Public Health and Human Longevity Science, with a joint appointment in the Department of Medicine Division of Nephrology and Hypertension. She serves as Director of the UC San Diego Center of Excellence in Health Promotion and Equity. Dr. Anderson's research is focused on nutrition and chronic disease prevention with a goal of equitably improving human health; including development of nutrition policy strategies for prevention of cardiovascular disease, chronic kidney disease, and diet-related cancers; and promotion of health behavior and elimination of health disparities by personal and environmental factors.



Robert “Chip” Schooley, MD (Department of Medicine)

Distinguished Professor of Medicine
Division of Infectious Diseases and Global Public Health
Co-Director, Center for Innovative Phage Applications and Therapeutics,
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Senior Director, International Initiatives
Interim Faculty Director, Global Education
University of California, San Diego

Dr. Schooley assumed the role of Global Education’s Interim Faculty Director in August 2019. Dr. Schooley is a graduate of the Johns Hopkins University School of Medicine. He completed an internal medicine residency at the Johns Hopkins Hospital and infectious disease fellowships at the National Institute of Allergy and Infectious Diseases and the Massachusetts General Hospital. He joined the faculty of Harvard Medical School in 1981 and shifted his research focus from herpesgroup viruses as recognition of the AIDS epidemic developed. Dr. Schooley was then recruited to the University of Colorado in 1990 as Head of the Division of Infectious Diseases where he developed an integrated HIV program clinical care and research program. He was elected Chair of the NIH’s AIDS Clinical Trials Group (ACTG) in 1995 and led that group until 2002 during which time the ACTG performed many of the seminal studies that defined modern antiretroviral chemotherapy. Dr. Schooley led the ACTG in its expansion from a domestic US research operation into one with a global reach with research units in Africa, India, Thailand, Haiti and Latin America. In 2005, he joined the faculty at the University of California San Diego where he served as Head of the Division of Infectious Diseases until 2017. He also serves as Editor-in-Chief of Clinical Infectious Diseases. His research interests are in the diagnosis, pathogenesis and therapy of viral infections and in global health.

Dr. Schooley assumed the position of Senior Director of International Affairs in 2017 and in this position has worked closely with Global Education and the Office of Research Affairs to develop a more strategic alignment of UC San Diego’s international collaborations. Dr. Schooley will continue to provide leadership to the Office of International Affairs through the Executive Vice Chancellor while working with Student Affairs in this interim role in support of Study Abroad, the International Students & Programs Office and the International Faculty & Scholars Office. Dr. Schooley will be working closely with senior administration on campus over the next year as UC San Diego is participating in the American Council on Education’s International Laboratory. The International Laboratory is a program designed to assist institutions of higher education develop comprehensive and strategic internationalization policies.



Kimberly Prather, PhD (Scripps Institute of Oceanography, UCSD)

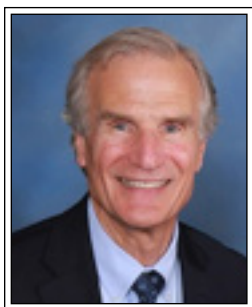
Distinguished Professor
Distinguished Chair in Atmospheric Chemistry
Director, CAICE (<http://caice.ucsd.edu>)
UC San Diego

Dr. Prather is Distinguished Professor and Distinguished Chair in Atmospheric Chemistry at Scripps Institution of Oceanography and in the Department of Chemistry and Biochemistry at the University of California, San Diego. In February 2019, she became the first woman at UC San Diego to be elected to membership in the National Academy of Engineering (NAE) for contributions including “technologies that transformed understanding of aerosols and their impacts on air quality, climate, and human health.”

She is the founding Director of the NSF Center for Aerosol Impacts on Chemistry of the Environment (CAICE), an NSF Center for Chemical Innovation. CAICE focuses on developing a better understanding of how ocean biology influences atmospheric chemistry, clouds, and climate.

She has authored over 200 publications in refereed scientific journals. Some of her more recent awards include election into the National Academy of Sciences (2020), National Academy of Engineering (2019), the 2020 American Chemical Society Frank H. Field & Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry, 2018 Chancellor’s Associates Excellence Award in Research in Science and Engineering, 2015 Haagen-Smit Clean

Air Award, the 2010 American Chemical Society Award for Creative Advances in Environmental Science & Technology. She is an elected fellow in the American Academy of Arts and Sciences, American Geophysical Union, and Association for the Advancement of Arts and Sciences. Early in her career, Professor Prather developed a technique known as aerosol time-of-flight mass spectrometry that is being used in atmospheric field studies worldwide to determine the sources of atmospheric aerosols. A primary focus of her research involves understanding how aerosols impact climate, with a major emphasis on their role in modifying clouds and precipitation processes. She also serves as co-Principal Investigator on a project to build the Scripps Ocean Atmosphere Research Simulator (SOARS), a new state-of-the-art wind-wave channel that will mimic the ocean with unprecedented accuracy, enabling scientists to explore how the introduction of pollutants by human activities is changing the chemistry of the ocean and atmosphere. Slated for operation in 2020, SOARS will be the only facility in the world capable of simulating future atmospheres with increasing pollution under different ocean and atmospheric conditions.



John Bradley, MD, Rady Children's Hospital; UCSD

Dr. Bradley is the medical director of the Division of Infectious Diseases at Rady Children's Hospital-San Diego and a Distinguished Professor at UC San Diego School of Medicine, the highest academic rank. He is chair of the Scientific Review Committee for a large pediatric clinical trials consortium, I-ACT, working with academic centers, the Food and Drug Administration and the health care industry to study new tests, therapies and vaccines for COVID-19. He is also on the FDA's Advisors and Consultants Staff.

For over three decades, Dr. Bradley served as chief of the Division of Infectious Diseases at Rady Children's Hospital and more recently held this role in the Department of Pediatrics of UC San Diego. He continues to serve as the Division's medical director and divides his time between clinical care, clinical research and national policy. Dr. Bradley's clinical research has focused on investigating new and innovative therapies for bacterial and viral infections, with a specific emphasis on finding new ways to treat antibiotic-resistant infections. He is currently funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development to investigate antibiotic dosing in critically ill children at Rady Children's Hospital pediatric intensive care unit. He is also working to bring a new national clinical trials consortium to the Hospital.

Among his many accomplishments, Dr. Bradley served on the U.S. Food and Drug Administration's Anti-Infective Drug Advisory Committee and currently serves as an advisor to FDA. He collaborated with the Centers for Disease Control and Prevention to lead an American Academy of Pediatrics Clinical Report on the bioterror threat of anthrax and was selected for a federal advisory committee on national biosecurity to represent children in the creation of national policies. He was the lead author on the first national guidelines for the treatment of pneumonia in children and is one of the members of the CDC-lead Influenza Guidelines Committee and as well as the co-chair of the new Pediatric Bone and Joint Infection Guidelines that are currently being written. Additionally, he is the editor and a co-author for "Nelson's Pediatric Antimicrobial Therapy," a book on the treatment of pediatric infections.



Mark Sawyer, MD, UCSD [Pediatrics]

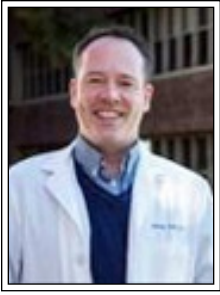
Dr. Sawyer is an infectious disease specialist at Rady Children's Hospital and a professor of clinical pediatrics at UC San Diego.

Additionally, he is vice chair for education in the UC San Diego Department of Pediatrics and the program director for the UC San Diego/Rady Children's Pediatric Residency Program. He is also the medical director of the UC San Diego San Diego Immunization Partnership and an associate editor for the 2021 American Academy of Pediatrics "Red Book," the report of the Committee on Infectious

Diseases of the American Academy of Pediatrics.

He is a past member of the American Academy of Pediatrics Committee on Infectious Diseases, the Food and Drug Administration Vaccines and Related Biological Products Advisory Committee and the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices.

Dr. Sawyer divides his time between clinical care, the residency program, working with public health on the delivery of vaccines and national vaccine policy.



Davey Smith, MD, MAS (Infectious Diseases and Global Public Health)

Head | Division of Infectious Diseases and Global Public Health
Professor and Vice Chair of Faculty

Dr. Smith is a translational research virologist, Chief of the Division of Infectious Diseases and Global Public Health at the University of California San Diego (UC San Diego), Co-Director of the San Diego Center for AIDS Research (SD CFAR), and Vice Chair of Faculty in the Department of Medicine at UC San Diego. His research interests include transmission, prevention, and treatment of both HIV and SARS-CoV2 (COVID-19). Since joining the UC San Diego faculty in 2003, Smith has been awarded more than \$37 million in federal funding as a Principal Investigator. His research interests include transmission, prevention, and treatment of both HIV and SARS-CoV2 (COVID-19).



Steve Spector, MD (Pediatrics)

Dr. Spector, a world leader in HIV research for more than 25 years, is Distinguished Professor of Pediatrics, the Chief of the Division of Pediatric Infectious Diseases and Director of the UCSD Mother-Child-Adolescent HIV Program. His research has used molecular and Immunologic approaches to study host-virus interactions of human cytomegalovirus (CMV) and human immunodeficiency virus type-1 (HIV-1) with a particular emphasis developing novel approaches for the detection, treatment and eradication of persistent viruses. Current CMV related research is examining the role of CMV in endothelial cell inflammation and the development of cardiovascular diseases. The laboratory has been involved with HIV/AIDS research since the beginning of the epidemic.

Current research examines HIV pathogenesis with a particular emphasis on host-virus interactions, and the associations of host genetic variants on HIV diseases progression and HIV-related diseases including CNS impairment in children and adults. The laboratory’s interest in the identification of host factors that affect HIV pathogenesis led us to the novel finding that during permissive infection, HIV down-regulates autophagy to promote its own replication, and the induction of autophagy (using mTOR inhibitors as well as vitamin D3) inhibits HIV replication. The laboratory has also identified specific host genetic variants that are associated with mother-to-child transmission, HIV disease progression, and antiretroviral pharmacokinetics and adverse effects. This research has led to our examining the association of host factors that control HIV replication with the goal of identifying novel strategies to eradicate HIV from those infected.



Natasha Martin, DPhil

Associate Professor
Division of Infectious Diseases and Global Public Health
University of California San Diego

Dr. Martin is an infectious disease economic modeler who develops dynamic transmission models to evaluate the impact and cost-effectiveness of public health interventions. She is currently an Associate Professor in the Division of Infectious Diseases and Global Public Health at the University of California San Diego and holds an honorary senior lecturer position at the University of Bristol. She is also the co-director of the Biostatistics and Modeling Core of the University of California San Diego Center for AIDS Research (UCSD CFAR). She has worked for 18 years developing mathematical models of disease progression and transmission in both communicable and non-communicable diseases. For the past eight years, her primary research has focused on modeling hepatitis C virus (HCV) and HIV transmission and prevention among high-risk groups such as people who inject drugs (PWID), men who have sex with men, and female sex workers. She is a leading researcher on modeling the impact of HCV treatment as prevention. Additionally, she has experience developing dynamic cost-effectiveness evaluations of case-finding and prevention interventions, and has the only published cost-effectiveness models of HCV case-finding interventions and treatment including both individual and population benefits. She is the principal investigator (PI) of a NIAID/NIDA-funded R01 optimizing HIV and HCV prevention portfolios among people who inject drugs in 108 countries. Her modeling work informed the WHO guidelines “When to start ART in people living with HIV (2013)”, and her work on the impact and cost-effectiveness of HCV treatment among people who inject drugs informed the WHO

guidelines on “Hepatitis C testing, care, and treatment (2013)”. More recently, her modeling work on HCV elimination was used to inform the WHO “Global Health Sector Strategy on Viral Hepatitis 2016-2021”.



Howard Taras, MD (Pediatrics)

Dr. Taras has been on faculty of UCSD’s Department of Pediatrics at UCSD since 1987. Over that same period he has been a specialist in academic-community engagement and in the field of school health. Part of his role at UCSD is to be a consultant to San Diego Unified School District as well as to multiple other school districts across California. His published research includes peer-reviewed articles on school policies that promote safety and health, with a focus on children with special health care needs.

SDEA Draft Questions for UCSD Panel

To protect our students, community, and all school staff, we must use science-based standards before physically reopening schools.

A. Opening/Closing Schools

Current in-person reopening criteria:

Schools and school districts may reopen for in-person instruction at any time if they are located in a local health jurisdiction (LHJ) that has not been on the county monitoring list within the prior 14 days.

If the LHJ has been on the monitoring list within the last 14 days, the school must conduct distance learning only, until their LHJ has been off the monitoring list for at least 14 days.

1. Do you agree that the California Department of Health (CDPH) criteria (see above) to open schools is sufficient to keep students, educators, and families safe or would you recommend supplemental criteria such as the following at the both the county and district levels:

a. County Level:

i. Level of Virus Spread:

1. There must be less than 10 daily new cases per 100,00 people in each zip code in the county.
2. The positive test ratio must be 3% or less for each zip code in the county.
3. The R0 must be less than 1 in the county.

ii. Testing:

1. Anyone must be able to get access to a free test regardless of symptoms and be able to make an appointment within 24 hours.
2. Patients must be notified of their test results in 24 hours.

iii. Contact Tracing:

1. There must be 30 contact tracers per 100k or 5 tracers per every confirmed new case (whichever is higher).
2. 75% or higher percent of index cases give contacts.
3. Trace time must be 24 hours or less and the time from contact tracing program to test of contract must be 24 hours or less.
4. More than 90% of identified contacts must be traced, tested, and in quarantine, isolation, or active monitoring.

<https://docs.google.com/viewer?url=https%3A%2F%2Fwww.cdph.ca.gov%2FPrograms%2F-CID%2FD CDC%2 FCDPH%2520Document%2520Library%2FCOVID-19%2FSchools%2520Re-opening%2520Recommendations .pdf>

b. District Level:

i. Testing:

1. If a member believes they have been exposed or have tested positive, all members

and union leadership must be notified of possible exposure within 12 hours.

2. The district must coordinate testing with the county so if members request testing (even if asymptomatic) they are able to easily schedule appointments (within 24 hours). If members can not get a test, they should be on paid admin leave until one is available.

ii. Contact Tracing:

1. The district must coordinate with the county to establish district based contact tracers. Contact tracers should notify union leadership and members of possible exposure within 24 hours.
2. Any staff member who must quarantine (whether exposure happened on campus or not) will be given admin leave for 14 days + time for a negative test result.
3. If a staff member tests positive and becomes ill within the 14-day quarantine period, they must retest and attain a negative test before returning to any worksite.

2. What are the implications if cases in the surrounding counties are on the rise even if SD County cases are on the decline?

a .i.e. What level of importance should we place on conditions in Los Angeles and Imperial Counties?

3. What wastewater testing protocols can and should be considered for effective detection within school communities?

4. What pool testing protocols can and should be considered for effective detection within school communities?

5. Which, if any, of the recommended protocols for mitigation/suppression, including social distancing and masks, be effective without a comprehensive testing and contact tracing program?

6. Assuming the conditions for reopening are eventually met, under what conditions could protective safety measures such as masks and social distancing be relaxed?

B. Site Conditions

1. Current CDPH guidelines speak to the importance of ventilation. Should school sites without windows or with non-operable windows that do not also have central air filtration for HVAC systems (targeted filter rating of at least MERV 13) stay closed?

1. What are the minimum hourly averaged ventilation rates to prevent viral spread?

2. Is there a square footage per window/opening ratio that we should consider for ventilation of a room?

3. What PPE at minimum should educators at each level wear when conducting onsite learning?

a.Elementary school teacher in one room (20-35 contacts)?

b.Secondary school teacher in one room (max of 72 contacts)?

c.Educators who share an office?

d. Ed. Specialists who have close contact with multiple students?

e. M/S Ed. Specialists who have contact with medically fragile students?

f. What precautions need to be taken by staff who come in very close contact with high needs students (diaper changing, feeding, med. procedures)?

- g. School nurses?
 - h. School counselors who normally work in a confined (300 - 400 ft²) space and require privacy when counseling students?
 - i. Itinerant educators who work at and travel to multiple sites?
 - j. Staff members supervising students with COVID-like symptoms while waiting to leave campus?
4. **Based on surface area transmission, what procedures must be in place regarding student materials that are brought into a school and classroom such as backpacks, water bottles, food, etc?**
 - a. Can books be safely shared between students? If so, what precautions should be taken?
 5. **CDPH July 17 guidelines on classroom space recommend 6 feet between desks. In sites where there is not enough space to meet the 6 feet recommendation do you recommend outdoor classrooms?**
 - a. Should sites where outdoor space is limited and 6 feet distance between desks not practical remain closed?
 6. **What are the risks of cohorting students who cannot social distance?**
 7. **What are the recommended screening procedures for when students and staff arrive?**
 8. **What precautions should be taken during recess/lunch (outdoor play time/eating time)?**
 9. **How often should classrooms and work spaces be cleaned and disinfected once schools re-open?**
 10. **When are face shields an acceptable alternative to face masks? What additional risk do they pose?**
 11. **What additional procedures must be in place to protect against asymptomatic spread?**
 12. **Would reducing staff and student time on campus reduce transmission?**
 13. **What adjustments/accommodations can we make for students who are exempt from wearing a mask, that would still allow for safe onsite learning?**
 - a. For educators that are in close contact with students that cannot wear masks or that have behaviors such as spitting, what extra protections must be in place to keep staff and students safe?

C. Additional Questions

1. **Educators may return to campuses in the fall to provide online learning. What are appropriate safety and disinfecting procedures for sites that will have adults but no students present throughout the day?**
2. **What considerations and protective measures can and should be taken for educators who live with at-risk family members?**
3. **What recommendations would you make for students with chronic conditions, specifically asthma, anaphylaxis, diabetes, cardiac concerns, hypertension, kidney disease, and pulmonary concerns?**
4. **If a student tests positive for COVID, what additional procedures should be in place for their siblings and the classrooms and schools sites of those siblings?**

QUESTIONS FOR UCSD SCIENTIFIC PANEL

(from District Administration)

1. Answer only those questions for which you feel comfortable. If you do answer it, please identify whether that questions' topic pertains to your area of expertise.
2. Send your answers in either the body of an email or on a separate word document.
3. To each question you choose to answer, please refer to the question number you are responding to (e.g., Question 6b).
4. If you have questions about the unique conditions in a school setting, reach Dr. Howard Taras by email or phone.

THANK YOU !!

1. Conditions suitable for opening schools

Proposed plan is to follow the CDPH criteria to open schools based on “Triggers for Modifying Health Officer Order”, which can be seen in the miniature image below, or more clearly through this hyperlink. https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.

TRIGGERS FOR MODIFYING HEALTH OFFICER ORDER

HEALTH OFFICER ORDER WILL BE MODIFIED WHEN ANY ONE OF THE FOLLOWING THREE CRITERIA ARE MET: COMMUNITY OUTBREAKS, PPE SUPPLY, OR ICU CAPACITY*; OR ONE OR MORE OF REMAINING CRITERIA IN AT LEAST 2 OF 3 COLUMNS ARE MET.

Epidemiology (Surveillance)	Healthcare (Hospital Capacity)	Public Health (Response)
<p>1. Case Rate: Greater than 100 per 100,000 for the 14-day case rate, measured using date of illness onset with a 3-day lag County = calculated with County of San Diego data State = California Department of Public Health's calculation for San Diego County</p> <p>2. Community Outbreaks: Seven or more new outbreaks in community settings in a 7-day period*</p> <p>3. COVID-Syndromic: Upward trajectory of COVID-like syndromic cases reported within a 14-day period</p> <p>4. ILI: Upward trajectory of influenza-like illnesses (ILI) reported within a 14-day period</p>	<p>5. Hospital Capacity: Approach 80% capacity for all hospital beds in the county</p> <p>6. Increasing Hospitalizations: >10% increase in the number of confirmed COVID-19 patients currently hospitalized, measured as an average of the past 3 days and compared to the average of the 3 days prior</p> <p>7. Limited Intensive Care Unit (ICU) Capacity: <20% availability of ICU beds*</p> <p>8. Limited Ventilator Capacity: <25% availability of ventilators</p> <p>9. PPE Supply: ≤ 50% of hospitals have at least a 22-day supply of PPE*</p>	<p>10. Testing Positivity: Greater than 8% of positive tests as a percent of total tests, measured using specimen collection date in a 7-day period with a 7-day lag</p> <p>11. Case Investigation: 70% or less of investigations are initiated within 24 hours of notification over a 7-day period</p> <p>12. Contact Tracing: Make first contact attempt for 70% or less of close contacts of new positive cases within 24 hours of identification over a 7-day period</p> <p>13. Homeless Population: Temporary shelter available for less than 15% of homeless population (e.g., space constraints, medically vulnerable household members, or otherwise)</p>
<p>■ County Metric</p>	<p>■ Reverse Attestation Metric</p>	<p>■ New State Metric</p>

- a) Do you agree with the California Department of Health (CDPH) criteria to open schools based on “Triggers for Modifying Health Officer Order”, based on case rates and other current epidemiology, hospital capacity and the public health system’s capacity to respond? It is more stringent than NY State. Agree with California/San Diego?
- b) Do you think a phased re-opening (elementary first, for example) is warranted, as done in other nations?

NOTE: Questions 2 through 9 (below) assume that schools can re-open based on criteria so that there is a lower prevalence of disease than exists today (July 24, 2020) and there is more robust public health support than there is today. If so, how would that relate to above “triggers for re-opening criteria”?

2. Transportation / Busing:

Proposed bus plan is to sanitize all touchable surfaces in the bus after all students are dropped off (typically twice per day). As for distancing, as discussed with county health officials, are to either have students 6 feet apart, or we will have students as close as 3 feet apart on buses as long as several other conditions were met. Recognize that bus rides are very typically in the range of 1 hour, in each direction.

- *All adults (bus driver, bus monitor) are wearing face coverings; Staff will wear face shields as well, when in closer proximity than 6 feet to students (e.g. bus driver when fastening wheel chair to bus floor).*
- *All students 3 feet from others are wearing face coverings.*
- *Symptom checks occur prior to entering the bus (either by parent report or by staff directly checking temperature),*
- *All windows on bus are open*
- *All students are facing forward*
- *Adults (bus driver, bus monitor) are always 6 feet away from one another and from students, excepting transiently when assisting a student. At these times, they will be offered face shields in addition to their face covering.*
- *Daily seating maps (who sat where) are taken daily to identify ‘close contacts’ of any student or staff member who tests positive several days later.*
- *Students are supervised so that they do keep at least 3 feet apart and are wearing their face coverings properly.*
- *Students from same household will be permitted to sit right next to one another.*

2. Questions

- a) Any additions to this plan?
- b) If a student cannot tolerate face coverings, will a face shield with a gator (drape) be adequate protection for others? At 3 feet? At 6 feet?
- c) If a student cannot tolerate face covering or face shield drape, can that student be transported to a school by bus at all?

3. Ventilation:

Proposed plan is to keep windows open and door open for cross-ventilation for classrooms that have windows; A/C and heat will be on, based on temperature, and running with highest outdoor air capacity. Less efficient for temperature change. If classroom has ceiling fan, it will be on. For “loft” classrooms (no windows), doors will be open, and HVAC systems will maximize outdoor air. Most of our current systems have MERV 8 filters. MERV 13 filters cannot fit these systems, as designed. Singing, choirs, and wind instruments will not be permitted in any of these classrooms or any other indoor space; Even outdoors, choirs and group singing may be discouraged.

Students who use Nebulizers to take medications will either need to use another form of medication

delivery, or use the nebulizers outdoors. Students who require suctioning (oral, nasal, pharyngeal) will either need to have this done outdoors at school, or have learning outside of the school setting.

3. Questions

- a) Is running the HVAC system with the doors and windows open a safe alternative to upgrading filters?
- b) Does the panel recommend changing filters in our HVAC systems to a higher level than MERV 8, even if that does not get as high as 13? In other words, is any MERV numbered filter higher than our current MERV 8 an improvement and increase defense against COVID? Or based on particle size of the COVID virus, is it only when the filter is a MERV 13 or higher that there is an impact against COVID?
- c) Do room devices such as HEPA air purifiers add any value, when HVAC systems are operating with filters less than MERV 13?
- d) If MERV 13 is difficult to achieve with what is normally an air conditioned or heated classroom, can just turning it off and opening windows and doors (with or without a ceiling fan) be a reasonable alternative?
- e) Do ceiling fans or portable fans add any value in classrooms that do not have good natural ventilation?

4. Distancing:

***Proposed plan:** All staff members in the classroom will be stationed 6 feet apart from students and 6 feet apart from one another. Students will be 6 feet apart, unless there are too many students in a classroom to allow 6 foot distances between students. In these circumstances, the County health department has sanctioned using physical barriers between students who are proximate, as long as these barriers extend over the top of students' heads and beyond the backs of their heads when they are seated at their chairs. [See appendix 1, for a visual mock-up.] Barriers are 2 feet high off of the desk and extend 18 inches out past the edge of the desk to extend beyond each student's head. Designed not to disrupt room ventilation, but add a barrier between one student and another.*

Exceptions in proposed plan for teacher-student distances are: (a) when a teacher is assisting a student at his/her desk. When that occurs the teacher will be instructed to keep duration brief (a few minutes), and give the teacher the option to add a face shield during those moments; (b) Staff serving students with special needs. Special education teachers, speech therapists, OTs, PTs, LVNs and teachers' aids will need to spend prolonged time with a student (e.g., during therapy, feeding student, etc). For these staff members, when the duration of close contact is anticipated to be long or when the student does not have control of secretions (spitter, for example), then PPE must be used: This includes water resistant disposable gowns, face shields, gloves, and either N95 (if available), or KN95 or surgical masks.

4. Questions

- a) Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening?
- b) Assuming barriers are a good option when 6 feet is not possible, are there other requirements? E.G. does it make a difference how students are facing one another (see Appendix 1 for different classroom setups). E.G. Should they always have face coverings on, even when behind these barriers?
- c) Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors?

- d) Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate? Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place?
- e) Is a student with both a face covering and face shield a form of a barrier between students and teacher? Students and students?
- f) Preschools have successfully "cohorted" groups of 10 students (no distancing, no face coverings). Could that apply to kindergarten? 1st graders? Other ages of students?
- g) Bathrooms: Any recommendations on how to establish a safe maximum number of students to be in restrooms at any given time?

Definition of a "close contact"

- h) Is it ever necessary to exceed CDC guidelines? For example if two people are always 6 feet apart indoors, but that goes on for 4-5 hours in a classroom? (i.e., way over 15 minutes?)

5. Disinfecting:

Proposed plan: Each classroom will have at least one 60%+ ethyl alcohol hand sanitizer dispenser near to the entrance. Almost all elementary classrooms already have one sink and paper towels. There will be several hand washing stations (no touch; paper towels) outdoors between classroom buildings that do not have sinks.

Plan is for maintenance crew to disinfect all classroom (and other used rooms') surfaces every evening after students/staff leave. Teachers' face shields will be left on their desks, so that they are also disinfecting with the room mist/fogger, etc.

Since, students and staff could be touching door knobs (indoors) and touching outdoor stairs and ramp railings, students will always be instructed to either hand sanitize or wash their hands just before and just after leaving their seats in the classroom. Also: before/after eating, before/after restroom; when blowing nose, coughing into hand, and when donning/doffing face covering.

Notices on restroom doors will be marked with maximum number of people permitted. If any sinks and urinals are closer together, there will either be a barrier between them or one will be blocked from usage.

Playground equipment will be permitted by any one "cohort" per day (i.e., one classroom), unless that equipment can be sanitized between different cohorts. When in use by students, they will be 3 feet apart from one another (with face coverings) and 6 feet apart (without face coverings). Students will be given hand sanitizer to use (or soap/water) prior to using playground equipment.

Hand dryers in bathrooms are used after hands are washed with soap and water, so they will be permitted in restrooms.

Currently, this school district uses quaternary ammonium compounds to disinfect. There is much experience with it. The CDPH says to use hydrogen peroxide based products (EPA List N), to reduce risk of exacerbating asthma.

5. Questions

- a) Any additions to the above precautions?
- b) Is it necessary to disinfect playground equipment and outdoor railings after school or, because it is outdoors, left overnight, and exposed to UV, disinfecting is not needed?

- c) Hand Dryers: CDC/CPDH no longer requires paper towels instead of hand dryers; Any comments?
- d) If the quaternary ammonium disinfectants are used, but only at night when all students/staff are gone, and left for many hours overnight when the scent has long gone, are they still of any health concern?

6. Face Coverings:

***Proposed plan:** All staff members and students K-12 will be expected to wear a face covering, even though the CDPH only “recommends” this for K-2nd grade.*

Cloth polyester face coverings will be distributed and they must cover both nose and mouth. They will be provided by the district (several per year) and disposable ones will be handed to them when they are forgotten or too dirty or torn. Disposable masks will be provided at buses and at school entry points for these students who forgot them. Masks with valves will not be permitted, as they do not provide source control. Cleaning instructions for parents/staff will be provided for reusable masks.

Mask “breaks” will only occur outdoors, and when six feet from one another. Mask breaks will occur when eating indoors. For students who cannot tolerate a mask (anxiety disorders, sensory processing disorders, developmental delay or physical disability keeps them from removing it when suffocating, etc), they will be: always 6 feet from other students and either there will be a barrier (plastic/cardboard or Plexiglass, for example), or student will be given a face shield with a drape, if tolerated. If appropriate for that student, learning to tolerate a face covering will be made an educational goal. Students who cannot wear face coverings and none of the above alternative strategies are suitable, may not be able to be educated in a school setting.

Principals will be asked to purchase paper bags or paper manila envelopes for students to store their masks when they are outdoors taking a mask break (or doing PE) and when they are eating. They can be decorated by students, so that they do not get mistakenly interchanged.

6. Questions

- a) For students who cannot tolerate a mask, but are well enough to be in a regular classroom, what other protective strategies, if any, would be effective and acceptable to protecting others? (e.g., plastic barriers, face shield alone, face shield with drape), that we can employ to protect others indoors? Or must they be at home? Or does this depend on the density of the classroom? Or on the number or age of students without a face covering? If so, what ‘formula’?
- b) For students kindergarten to grade 2, CDPH says face coverings are recommended, but not mandatory. It is mandatory for grades 3 and higher, unless there is an underlying medical condition.
- c) Is a face shield with a cloth drape an acceptable face covering instead of a cloth or paper mask, to protect others? For example, can this be considered source control, for students who cannot tolerate typical mask/face covering?

NOTE: This does not appear to be adequate protection for school teachers who need to have their faces observed by students (deaf student program; kindergarten), as per this recent CDC Advisory on Face Coverings in Schools: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/cloth-face-cover.html>

7. Temperature Guidelines

***Proposed plan:** All adults will be monitored for temperature every morning. No-touch thermometers will be available at multiple entrances. Student temperature checks will not be conducted routinely as this is no longer considered necessary preventive measure (low rates of fever, even among children with any symptoms). More importantly, it provides more opportunities for students to gather together without distancing (students who fail test would have to be sent to another station to be rechecked*

within 30 minutes) or proper face coverings (occurs before they enter the school) and would have required staggered school start times and pulling teachers into temperature-taking positions.

The CDC and the State CDPH guidelines recommend a temperature threshold of 100.4. But, the County of San Diego has a temperature threshold of 100.0. The lower temperature threshold is anticipated to cause more false positives as individuals enter schools.

7. Questions

- a) From a scientific perspective, 100.0 vs 100.4 as fever threshold?
- b) Does this differ for students versus adults?
- c) Do the benefits of temperature screening of students (at entry to schools and to buses each morning) outweigh the complications of taking temperatures of all students? These may include: more staggered school start times, teachers having to staff entry ways and taught to take temperatures; and “secondary” lines of students to be re-tested after a marginally high readings?
 - If so, does this differ for students at different levels (Elementary? Middle?High?);
 - What about for staff versus students?

8. Quarantine versus School or Class Closure

There are various directions from different sources on when to allow a student or staff member back to school, after experiencing symptoms, and at what point other potential contacts are quarantined for 14 days.

- (a) *CDC recommends that for schools, any test-positive case of COVID-19 is to be followed by quarantine or negative test by all others in the “cohort” (ie., class, or possibly bus): “If a student, teacher, or staff member tests positive for SARS-CoV-2, those in the same cohort/group should also be tested and remain at home until receiving a negative test result or quarantine.”*
- (b) *CDC recommends quarantine in non-school circumstances based on 15+ minutes closer than 6 feet, regardless of any “cohort”*
- (c) *San Diego County is working on a Decision Tree for schools, regarding this (See Appendix 2)*
- (d) *Epidemiologists have defined a school outbreak as 2 lab-confirmed positive individuals in the same school cohort, whose first symptoms are within two weeks of one another (assuming these individuals have no other close contact outside of school).*
- (e) *CDPH: They propose individualizing closure on the circumstances in consultation with local health department, but say individual school closure may be appropriate when: (a) multiple cases in multiple cohorts or (b) at least 5% of total number of individuals are positive within a 14-day period, depending on size and physical layout of school. And closing an entire district if 25% or more of schools have closed, but in consultation with public health department.*

See Appendix 2, below: A Draft “Decision Tree” developed with local county health department
See Appendix 3, Epidemiologist definition of a COVID outbreak in a school setting

8. Questions

- a) Any input on how the San Diego Decision Tree should be (Appendix 2).
- b) Adopt the CDPH guide for closing schools/classrooms?

Appendix 1:

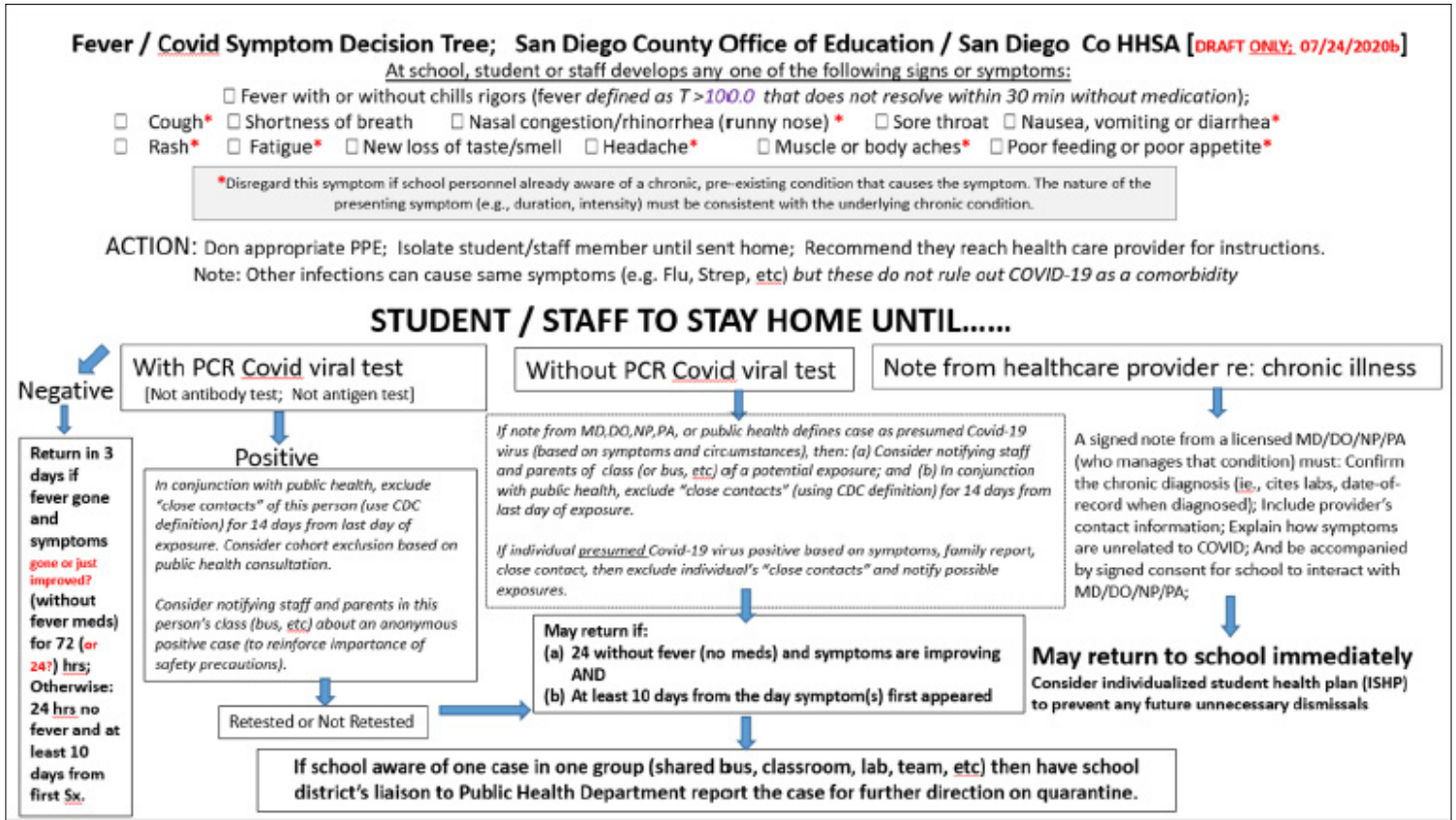
Mock-up of barriers in different sorts of classrooms

[Note: the actual barriers will be of stiffer cardboard, secured to the desks, and have heavy plastic windows.]



Appendix 2:

Proposed decision tree [draft]





Proposed Investigation/ Reporting Thresholds and Outbreak Definition for COVID-19 in Educational Settings

BACKGROUND

Educational institutions are common congregate settings for youth and young adults and may also serve as large employers within a community. Public health investigations within these settings can be complex. It can be difficult to distinguish between transmission within the school versus detection of community cases, particularly in areas experiencing substantial community transmission as defined by state or local jurisdictions.

This document is based on available scientific resources and expert opinion and is intended only as guidance. Educational settings are broadly defined, and include but are not limited to: youth camps, youth programs, childcare centers, preschools, primary through secondary schools, vocational schools, colleges, and universities.

For individual COVID-19 cases, including those in an educational setting, public health authorities should initiate prompt case investigation and contact tracing to prevent transmission and to ensure early outbreak detection. When multiple cases are identified, additional public health assessments in partnership with school officials may be required to determine if the cases meet the definition of an outbreak. Since outbreak investigations require significant resources, prioritization may be necessary. The criteria provided below are intended as guidance for public health authorities to help prioritize investigations within educational settings. In certain settings determined to be high-risk, a single COVID-19 case may warrant additional public health measures.

Criteria to Consider for Further Investigation

Consider the following criteria when determining the need for and type of outbreak investigation:

- Size and characteristics of student and staff population (e.g., population includes individuals with special healthcare needs and/or who are at higher risk for severe illness¹)
- Setting characteristics and environmental factors that affect transmission (e.g., length of school day, intensity of hands-on instruction, ability to maintain social distancing, need for/sharing of common equipment, physical spacing in classrooms, movement through buildings, proportion of time spent outdoors, involvement in activities that may be more likely to generate aerosols)
- Possibility of spread to others, including to additional individuals outside of the facility (e.g., exposures at large assemblies, on field trips, at extracurricular activities that include students from other schools, on school buses that transport riders from multiple schools)
- Involvement or possibility of spread to affiliated congregate, residential settings (e.g., residence halls, fraternity and sorority houses)
- High suspected number of cases or greater case rate within the educational setting compared to the case rate in the community

- Additional indicators (e.g., increased absenteeism) that might suggest undiagnosed or unreported COVID-19-like activity among students or staff

Additional guidance for managing investigations during COVID-19 outbreaks is available from Centers for Diseases Control and Prevention (CDC) ².

OUTBREAK DEFINITION

Outbreak Definition

Two or more ^{*} laboratory-confirmed [†] COVID-19 cases among students or staff with onsets [‡] within a 14-day period, who are epidemiologically linked [§], do not share a household ^{**}, and were not identified as close contacts ^{††} of each other in another setting during standard case investigation or contact tracing.

Outbreak-Associated Cases

Confirmed and probable secondary cases among students or staff in the educational setting should be classified as outbreak-associated. Individual cases outside of the educational setting that resulted from secondary transmission from an outbreak-associated case (e.g., a family member of a student or staff) should not be included in the outbreak case count.

Outbreak Resolution

No new confirmed or probable COVID-19 cases ³ identified after 28 days (two incubation periods) have passed since the last known school exposure ^{‡‡} from a case.

PUBLIC REPORTING

The need to publicly report a COVID-19 outbreak in an educational setting should be determined by each public health jurisdiction and must balance the need for public disclosure and maintaining patient privacy. Public reporting of outbreaks of significant size or risk to public health should be prioritized.

^{*} Health departments may consider a higher threshold for defining an outbreak if there is a high case rate in the community (community transmission).

[†] Detection of SARS-CoV-2 RNA in a clinical specimen using a molecular amplification detection test³.

[‡] Use symptom onset date whenever available. If symptom onset date is unknown or if a case is asymptomatic, use specimen collection date for the first specimen that tested positive.

[§] Health departments should verify to the best extent possible that cases were present in the same setting during the same time period (e.g., same classroom, school event, school-based extracurricular activity, school transportation) within 14 days prior to onset date (if symptomatic) or specimen collection date for the first specimen that tested positive (if asymptomatic or onset date is unknown) and that there is no other more likely source of exposure (e.g., household or close contact to a confirmed case outside of educational setting).

^{**} May not apply to investigations in educational, residential settings (e.g., boarding school, dormitories), where cases within shared dwellings may be included.

^{††} Close contact is defined as being within 6 feet for at least 15 minutes. Data are insufficient to precisely define the duration of exposure that constitutes prolonged exposure and thus a close contact. For updated definition of a close contact, please refer to CDC Contact Tracing Plan Appendices website at <https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/appendix.html#contact>

^{‡‡} If last known exposure cannot be determined, the onset date or specimen collection date (whichever is later) of the last identified case should be used.

Raw Responses from UCSD Experts

John Bradley

QUESTIONS FOR UCSD SCIENTIFIC PANEL (from District Administration)

From John Bradley, Pediatric Infectious Diseases:

General responses:

1. There is no completely safe way to get kids back to school, but some approaches are more safe than others.
2. The risk of serious illness in school children is quite low, and many may actually have the infection without symptoms, but we have not clearly defined the risk for infection from an asymptomatic child to others.
3. The risk of transmission of infection to adults from children in the home is significant, but not well-defined; close interactions of children with sibs, father, mother, and grandparents are not all identical within a single family and will be different between families; the risks of transmission between teachers and school workers is also quite variable, depending on the closeness/duration of the contact with infected children and their secretions.
4. Distance needed to separate two people if one is COVID positive, is not well-defined, but 6 feet is the national standard per CDC. There is likely to be some benefit with 3 feet distance, particularly if the facial coverings are of a tightly knit material or a plastic barrier is present.
5. Facial coverings are not standardized, so risks of transmission cannot be well defined for those with more porous coverings.
6. Many of the questions pertain to both healthy children and those with disabilities who may need transport in wheelchairs or cannot control secretions or wear masks. I believe that two sets of policies would allow more flexibility in programs with well children, if possible.

1. Conditions suitable for opening schools

Proposed plan is to follow the CDPH criteria to open schools based on “Triggers for Modifying Health Officer Order”, which can be seen in the miniature image below, or more clearly through this hyperlink. https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.pdf

TRIGGERS FOR MODIFYING HEALTH OFFICER ORDER

HEALTH OFFICER ORDER WILL BE MODIFIED WHEN ANY ONE OF THE FOLLOWING THREE CRITERIA ARE MET: COMMUNITY OUTBREAKS, PPE SUPPLY, OR ICU CAPACITY*; **OR** ONE OR MORE OF REMAINING CRITERIA IN AT LEAST 2 OF 3 COLUMNS ARE MET.

Epidemiology (Surveillance)	Healthcare (Hospital Capacity)	Public Health (Response)
<p>1. Case Rate: Greater than 100 per 100,000 for the 14-day case rate, measured using date of illness onset with a 3-day lag County = calculated with County of San Diego data State = California Department of Public Health's calculation for San Diego County</p> <p>2. Community Outbreaks: Seven or more new outbreaks in community settings in a 7-day period*</p> <p>3. COVID-Syndromic: Upward trajectory of COVID-like syndromic cases reported within a 14-day period</p> <p>4. ILI: Upward trajectory of influenza-like illnesses (ILI) reported within a 14-day period</p>	<p>5. Hospital Capacity: Approach 80% capacity for all hospital beds in the county</p> <p>6. Increasing Hospitalizations: >10% increase in the number of confirmed COVID-19 patients currently hospitalized, measured as an average of the past 3 days and compared to the average of the 3 days prior</p> <p>7. Limited Intensive Care Unit (ICU) Capacity: <20% availability of ICU beds*</p> <p>8. Limited Ventilator Capacity: <25% availability of ventilators</p> <p>9. PPE Supply: ≤ 50% of hospitals have at least a 22-day supply of PPE*</p>	<p>10. Testing Positivity: Greater than 8% of positive tests as a percent of total tests, measured using specimen collection date in a 7-day period with a 7-day lag</p> <p>11. Case Investigation: 70% or less of investigations are initiated within 24 hours of notification over a 7-day period</p> <p>12. Contact Tracing: Make first contact attempt for 70% or less of close contacts of new positive cases within 24 hours of identification over a 7-day period</p> <p>13. Homeless Population: Temporary shelter available for less than 15% of homeless population (e.g., space constraints, medically vulnerable household members, or otherwise)</p>
<p>■ County Metric</p>	<p>■ Reverse Attestation Metric</p>	<p>■ New State Metric</p>

1. Questions

- a) Do you agree with the California Department of Health (CDPH) criteria to open schools based on “Triggers for Modifying Health Officer Order”, based on case rates and other current epidemiology, hospital capacity and the public health system’s capacity to respond? It is more stringent than NY State. Agree with California/ San Diego? *I agree with the conservative approach.*
- b) Do you think a phased re-opening (elementary first, for example) is warranted, as done in other nations? If so, how would that relate to above “triggers for re- opening criteria”? *Phased re-opening would be helpful, and would allow for a re-evaluation of the approach with only one age group initially. Would start with high school students, where the likelihood of compliance is greater.*

NOTE: Questions 2 through 9 (below) assume that schools can re-open based on criteria so that there is a lower prevalence of disease than exists today (July 24, 2020) and there is more robust public health support than there is today

2. Transportation / Busing:

Proposed bus plan is to sanitize all touchable surfaces in the bus after all students are dropped off (typically twice per day). As for distancing, as discussed with county health officials, are to either have students 6 feet apart, or we will have students as close as 3 feet apart on buses as long as several other conditions were met. Recognize that bus rides are very typically in the range of 1 hour, in each direction.

- All adults (bus driver, bus monitor) are wearing face coverings; Staff will wear face shields as well, when in closer proximity than 6 feet to students (e.g. bus driver when fastening wheel chair to bus floor).
- All students 3 feet from others are wearing face coverings.
- Symptom checks occur prior to entering the bus (either by parent report or by staff directly checking temperature), *Parent histories may not be reliable*
- All windows on bus are open *Wind may not be tolerated by riders, particularly on freeways*
- All students are facing forward
- Adults (bus driver, bus monitor) are always 6 feet away from one another and from students, excepting transiently when assisting a student. At these times, they will be offered face shields in addition to their face covering.
- Daily seating maps (who sat where) are taken daily to identify ‘close contacts’ of any student or staff member who tests positive several days later.
- Students are supervised so that they do keep at least 3 feet apart and are wearing their face coverings properly.
- Students from same household will be permitted to sit right next to one another.

2. Questions

- a) Any additions to this plan?
- b) If a student cannot tolerate face coverings, will a face shield with a gator (drape) be adequate protection for others? At 3 feet? *At 6 feet?*
- c) If a student cannot tolerate face covering or face shield drape, can that student be transported to a school by bus at all? *Yes, with the transporter wearing mask and eye protection.*

3. Ventilation

Proposed plan is to keep windows open and door open for cross-ventilation for classrooms that have windows; A/C and heat will be on, based on temperature, and running with highest outdoor air capacity. Less efficient for temperature change. If classroom has ceiling fan, it will be on. For “loft” classrooms (no windows), doors will be open, and HVAC systems will maximize outdoor air. Most of our current systems have MERV 8 filters. MERV

13 filters cannot fit these systems, as designed. Singing, choirs, and wind instruments will not be permitted in any of these classrooms or any other indoor space; Even outdoors, choirs and group singing may be discouraged, *yes, unless 6 feet apart, which defeats the purpose of a choir.*

Students who use Nebulizers to take medications will either need to use another form of medication delivery, or use the nebulizers outdoors. Students who require suctioning (oral, nasal, pharyngeal) will either need to have this done outdoors at school, or have learning outside of the school setting.

3. Questions:

- a) Is running the HVAC system with the doors and windows open a safe alternative to upgrading filters?
- b) Does the panel recommend changing filters in our HVAC systems to a higher level than MERV 8, even if that does not get as high as 13? In other words, is any MERV numbered filter higher than our current MERV 8 an improvement and increase defense against COVID? Or based on particle size of the COVID virus, is it only when the filter is a MERV 13 or higher that there is an impact against COVID?
- c) Do room devices such as HEPA air purifiers add any value, when HVAC systems are operating with filters less than MERV 13?
- d) If MERV 13 is difficult to achieve with what is normally an air conditioned or heated classroom, can just turning it off and opening windows and doors (with or without a ceiling fan) be a reasonable alternative?
- e) Do ceiling fans or portable fans add any value in classrooms that do not have good natural ventilation? *No, this could potentially be worse, as suggested in a restaurant exposure even in Hong Kong, spreading droplets.*

4. Distancing

Proposed plan: All staff members in the classroom will be stationed 6 feet apart from students and 6 feet apart from one another. Students will be 6 feet apart, unless there are too many students in a classroom to allow 6 foot distances between students. In these circumstances, the County health department has sanctioned using physical barriers between students who are proximate, as long as these barriers extend over the top of students' heads and beyond the backs of their heads when they are seated at their chairs. [See appendix 1, for a visual mock-up.] Barriers are 2 feet high off of the desk and extend 18 inches out past the edge of the desk to extend beyond each student's head. Designed not to disrupt room ventilation, but add a barrier between one student and another.

Exceptions in proposed plan for teacher-student distances are: (a) when a teacher is assisting a student at his/her desk. When that occurs the teacher will be instructed to keep duration brief (a few minutes), and give the teacher the option to add a face shield during those moments; (b) Staff serving students with special needs. Special education teachers, speech therapists, OTs, PTs, LVNs and teachers' aids will need to spend prolonged time with a student (e.g., during therapy, feeding student, etc). For these staff members, when the duration of close contact is anticipated to be long or when the student does not have control of secretions (spitter, for example), then PPE must be used: This includes water resistant disposable gowns, face shields, gloves, and either N95 (if available), or KN95 or surgical masks.

4. Questions:

- a) Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? *YES, 3 feet with plexiglass barriers.* What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening? *Yes, the virus will be "out there" and if there is community spread, the "conditions" of deterioration will not be known until a few weeks after the virus is again spreading.*
- b) Assuming barriers are a good option when 6 feet is not possible, are there other requirements? E.G. does it make a difference how students are facing one another (see Appendix 1 for different classroom setups). E.G. Should they always have face coverings on, even when behind these barriers? *1: if there are barriers, they do not need to be all in the same direction. 2: They do need to wear face coverings, even behind barriers.*

ers, to minimize risk.

- c) Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors?
acceptable
- d) Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate?
yes Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place? *yes*
- e) Is a student with both a face covering and face shield a form of a barrier between students and teacher?
Yes Students and students? *Yes, if worn correctly*
- f) Preschools have successfully "cohorted" groups of 10 students (no distancing, no face coverings). *I'm not sure they have been successful. Lack of outbreak report is not the same as safe.* Could that apply to kindergarten? 1st graders? Other ages of students? *Could apply to older children who can follow directions more responsibly*
- g) Bathrooms: Any recommendations on how to establish a safe maximum number of students to be in restrooms at any given time? *Yes, based on the 6 foot rule.*

Definition of a "close contact"

- h) Is it ever necessary to exceed CDC guidelines? For example if two people are always 6 feet apart indoors, but that goes on for 4-5 hours in a classroom? (i.e., way over 15 minutes?) *Should be OK in rooms with reasonable ventilation, no symptoms.*

5. Disinfecting

Proposed plan: Each classroom will have at least one 60%+ ethyl alcohol hand sanitizer dispenser near to the entrance. Almost all elementary classrooms already have one sink and paper towels. There will be several hand washing stations (no touch; paper towels) outdoors between classroom buildings that do not have sinks.

Plan is for maintenance crew to disinfect all classroom (and other used rooms') surfaces every evening after students/staff leave. Teachers' face shields will be left on their desks, so that they are also disinfected with the room mist/fogger, etc.

Since, students and staff could be touching door knobs (indoors) and touching outdoor stairs and ramp railings, students will always be instructed to either hand sanitize or wash their hands just before and just after leaving their seats in the classroom. Also: before/after eating, before/after restroom; when blowing nose, coughing into hand, and when donning/doffing face covering.

Notices on restroom doors will be marked with maximum number of people permitted. If any sinks and urinals are closer together, there will either be a barrier between them or one will be blocked from usage.

Playground equipment will be permitted by any one "cohort" per day (i.e., one classroom), unless that equipment can be sanitized between different cohorts. When in use by students, they will be 3 feet apart from one another (with face coverings) and 6 feet apart (without face coverings). Students will be given hand sanitizer to use (or soap/water) prior to using playground equipment.

Hand dryers in bathrooms are used after hands are washed with soap and water, so they will be permitted in restrooms.

Currently, this school district uses quaternary ammonium compounds to disinfect. There is much experience with it. The CDPH says to use hydrogen peroxide based products (EPA List N), to reduce risk of exacerbating asthma.

5. Questions

- a) Any additions to the above precautions?
- b) Is it necessary to disinfect playground equipment and outdoor railings after school or, because it is outdoors, left overnight, and exposed to UV, disinfecting is not needed? *Yes, it will minimize risk, but probably not a lot if the children use gel on entering classrooms.*
- c) Hand Dryers: CDC/CPDH no longer requires paper towels instead of hand dryers; Any comments? *OK*

- d) If the quaternary ammonium disinfectants are used, but only at night when all students/staff are gone, and left for many hours overnight when the scent has long gone, are they still of any health concern?

6. Face Coverings

Proposed plan: All staff members and students K-12 will be expected to wear a face covering, even though the CDPH only “recommends” this for K-2nd grade .

Cloth polyester face coverings will be distributed and they must cover both nose and mouth. They will be provided by the district (several per year) and disposable ones will be handed to them when they are forgotten or too dirty or torn. Disposable masks will be provided at buses and at school entry points for these students who forgot them. Masks with valves will not be permitted, as they do not provide source control. Cleaning instructions for parents/staff will be provided for reusable masks.

Mask “breaks” will only occur outdoors, and when six feet from one another. Mask breaks will occur when eating indoors. For students who cannot tolerate a mask (anxiety disorders, sensory processing disorders, developmental delay or physical disability keeps them from removing it when suffocating, etc), they will be: always 6 feet from other students and either there will be a barrier (plastic/cardboard or Plexiglass, for example), or student will be given a face shield with a drape, if tolerated. If appropriate for that student, learning to tolerate a face covering will be made an educational goal. Students who cannot wear face coverings and none of the above alternative strategies are suitable, may not be able to be educated in a school setting.

Principals will be asked to purchase paper bags or paper manila envelopes for students to store their masks when they are outdoors taking a mask break (or doing PE) and when they are eating. They can be decorated by students, so that they do not get mistakenly interchanged.

6.Question

- a) For students who cannot tolerate a mask, but are well enough to be in a regular classroom, what other protective strategies, if any, would be effective and acceptable to protecting others? (e.g., *plastic barriers*, face shield alone, face shield with drape), that we can employ to protect others indoors? Or must they be at home? *Would be preferable not mix these kids with otherwise healthy kids.* Or does this depend on the density of the classroom? Or on the number or age of students without a face covering? If so, what ‘formula’? *There is no formula, sorry. Increased risk with increased density; increased risk without facial covering; increased risk in those who cannot reliably wear masks.*
- b) For students kindergarten to grade 2, CDPH says face coverings are recommended, but not mandatory. It is mandatory for grades 3 and higher, unless there is an underlying medical condition. *The masks would not stay on younger children even if requested.*
- c) Is a face shield with a cloth drape an acceptable face covering instead of a cloth or paper mask, to protect others? For example, can this be considered source control, for students who cannot tolerate typical mask/face covering? *No.*

NOTE: This does not appear to be adequate protection for school teachers who need to have their faces observed by students (deaf student program; kindergarten), as per this recent CDC Advisory on Face Coverings in Schools: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/cloth-face-cover.html>

7. Temperature guidelines

Proposed plan: All adults will be monitored for temperature every morning. No-touch thermometers will be available at multiple entrances. Student temperature checks will not be conducted routinely as this is no longer considered necessary preventive measure (low rates of fever, even among children with any symptoms). More importantly, it provides more opportunities for students to gather together without distancing (students who fail test would have to be sent to another station to be rechecked within 30 minutes) or proper face coverings (occurs before they enter the school) and would have required staggered school start times and pulling teachers into temperature-taking positions.

The CDC and the State CDPH guidelines recommend a temperature threshold of 100.4. But, the County of San Diego has a temperature threshold of 100.0. The lower temperature threshold is anticipated to cause more false positives as individuals enter schools.

7. Questions

- a) From a scientific perspective, 100.0 vs 100.4 as fever threshold? *Fever has not been a common symptom in children. I would select 100.4. Not aware of any pediatric studies that used 100 as the detection limit for an infection.*
- b) Does this differ for students versus adults? *I would still use 100.4.*
- c) Do the benefits of temperature screening of students (at entry to schools and to buses each morning) outweigh the complications of taking temperatures of all students? These may include: more staggered school start times, teachers having to staff entry ways and taught to take temperatures; and “secondary” lines of students to be re-tested after a marginally high readings? *No, I think that assessment of symptoms is more likely to detect infection than fever, but sadly, parents are likely to send symptomatic children to school.*
- If so, does this differ for students at different levels (Elementary? Middle? High?); *testing for fever is problematic in all ages*
 - What about for staff versus students? *Would make more sense, but I wouldn't screen staff if you don't screen students.*

8. Quarantine versus School or Class Closure

There are various directions from different sources on when to allow a student or staff member back to school, after experiencing symptoms, and at what point other potential contacts are quarantined for 14 days. :

- (a) CDC recommends that for schools, any test-positive case of COVID-19 is to be followed by quarantine or negative test by all others in the “cohort” (ie., class, or possibly bus): “If a student, teacher, or staff member tests positive for SARS-CoV-2, those in the same cohort/group should also be tested and remain at home until receiving a negative test result or quarantine”.
- (b) CDC recommends quarantine in non-school circumstances based on 15+ minutes closer than 6 feet, regardless of any “cohort”
- (c) San Diego County is working on a Decision Tree for schools, regarding this (See Appendix 2)
- (d) Epidemiologists have defined a school outbreak as 2 lab-confirmed positive individuals in the same school cohort, whose first symptoms are within two weeks of one another (assuming these individuals have no other close contact outside of school).
- (c) CDPH: They propose individualizing closure on the circumstances in consultation with local health department, but say individual school closure may be appropriate when: (a) multiple cases in multiple cohorts or (b) at least 5% of total number of individuals are positive within a 14-day period, depending on size and physical layout of school. And closing an entire district if 25% or more of schools have closed, but in consultation with public health department.

See Appendix 2, below: A Draft “Decision Tree” developed with local county health department See Appendix 3, Epidemiologist definition of a COVID outbreak in a school setting

8. Questions:

- a) Any input on how the San Diego Decision Tree should be (Appendix 2).

Pre-existing cough may or may not be the cause of the cough in a child. You can have hay fever and COVID at the same time.

Need to better define these signs and symptoms better, rather than having teachers decide. A school nurse would do a better job at screening.

Very hard to define “rash” and “fatigue” and “poor appetite” Will a scrape be considered a rash? If a child does not sleep well one night, they will have fatigue and possibly sleep in class: is that fatigue?

Would go with current CDC recommendations for return-to-work.

Kimberly Brouwer:

Response to SDUSD questions

2c) If a student cannot tolerate face covering or face shield drape, can that student be transported to a school by bus at all? I would recommend against transporting students who cannot tolerate face coverings. This poses increased risk for all involved, especially if the student who cannot tolerate a mask also has an underlying condition affecting their respiratory health.

4a) Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening?

While these barriers help with large droplets, they likely won't offer protection against most aerosolized particles. There also is an issue if students aren't sitting consistently. When community incidence of infection has decreased to low levels and if the surveillance system is strong, social distancing will not be as urgent as it is now.

4b) Assuming barriers are a good option when 6 feet is not possible, are there other requirements? Should they always have face coverings on, even when behind these barriers? Yes, face coverings should remain on behind these partial barriers

4c) Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors? Ideally, students should eat outdoors. If they must eat indoors, they should not talk during lunch and eat at different times.

4d) Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate? Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place? If a teacher's desk has to be closer, a physical barrier and mask would be required.

5b) Is it necessary to disinfect playground equipment and outdoor railings after school or, because it is outdoors, left overnight, and exposed to UV, disinfecting is not needed? A quick cleaning would be recommended if temperatures are cool or in shaded areas. 6. a) For students who cannot tolerate a mask, but are well enough to be in a regular classroom, what other protective strategies, if any, would be effective and acceptable to protecting others? If a student cannot tolerate a mask, they should ideally continue with remote education. If community transmission drops very low and testing becomes more frequent and widespread, in person attendance of students who cannot tolerate a mask can be reconsidered.

6b) For students kindergarten to grade 2, CDPH says face coverings are recommended, but not mandatory. It is mandatory for grades 3 and higher, unless there is an underlying medical condition. Ideally all school age students should be asked to wear a face covering. Other countries have been successfully enacting this practice. Younger students in these settings are less likely to consistently wear coverings correctly all the time, but even imperfect compliance should help minimize transmission. Students will also serve as good examples of best practices to their families, so age/grade should not automatically exclude a child from masking.

7c) Do the benefits of temperature screening of students (at entry to schools and to buses each morning) outweigh the complications of taking temperatures of all students?

Considering the risk from crowding and the prominence of asymptomatic or afebrile cases in younger age groups, the benefits of requiring temperature checks before school and bus entry do not seem to outweigh the risks. Perhaps teachers can poll students about symptoms each day. Staff/instructors can have temperature checks, but a more comprehensive daily online symptom survey might be more helpful.

SDEA

A1. Do you agree that the California Department of Health (CDPH) criteria (see above) to open schools is sufficient to keep students, educators, and families safe.

While the criteria cannot ensure safety of students, educators, and families, it will decrease risk. Most coun-

tries that have successfully opened schools have had community incidence rates of less than 1 incident case/day per 100,000 coupled alongside intensive, rapid surveillance measures to keep incidence down. Those that have opened with somewhat higher community transmission have had very strict preventive measures and widespread testing available.

A3. What wastewater testing protocols can and should be considered for effective detection within school communities? Wastewater testing likely wouldn't be able to determine if virus is viable. As viral RNA can still be detected weeks after an infection, wastewater testing at this timepoint would be less helpful compared to testing of pooled samples.

A6. Assuming the conditions for reopening are eventually met, under what conditions could protective safety measures such as masks and social distancing be relaxed?

When effective treatment and/or a vaccine are widely available, masks/social distancing can be relaxed. Very low community transmission <1 incident case/day per 100,000 along with widespread rapid testing might also provide conditions under which some safety measures can be relaxed if cohorting were still enforced.

B1. Current CDPH guidelines speak to the importance of ventilation. Should school sites without windows or with non-operable windows that do not also have central air filtration for HVAC systems (targeted filter rating of at least MERV 13) stay closed?

Such schools might look into alternative spaces (outdoors on school grounds, community auditoriums/sites that have adequate ventilation/spacing).

B3. What PPE at minimum should educators at each level wear when conducting onsite learning? All should have a mask (according to CDC guidelines). Goggles or a face shield would be useful for those having close contact with students.

B4. Based on surface area transmission, what procedures must be in place regarding student materials that are brought into a school and classroom such as backpacks, water bottles, food, etc? Belongings should be kept separate from each other, such as at a student's own desk.

B4a. Can books be safely shared between students? If so, what precautions should be taken? Ideally, books and other items that can't be easily sanitized should not be shared between students. Otherwise, consider waiting at least 24 hours before the next student uses a book.

B5. CDPH July 17 guidelines on classroom space recommend 6 feet between desks. In sites where there is not enough space to meet the 6 feet recommendation do you recommend outdoor classrooms? Yes.

B5a. Should sites where outdoor space is limited and 6 feet distance between desks not practical remain closed? It would depend on the level of community transmission and the ability to ensure indoor ventilation and masking of all. Schools might see if there are other community sites available that would allow for more distance/ventilation.

B13. What adjustments/accommodations can we make for students who are exempt from wearing a mask, that would still allow for safe onsite learning?

a. For educators that are in close contact with students that cannot wear masks or that have behaviors such as spitting, what extra protections must be in place to keep staff and students safe? There is no simple way to ensure safety (especially for the student unable to wear a face covering), although clinical grade PPE would be recommended for the education.

C1. Educators may return to campuses in the fall to provide online learning. What are appropriate safety and disinfecting procedures for sites that will have adults but no students present throughout the day? While students aren't present, standards should be similar to as in the community (distancing, masking, frequent hand washing). Disinfecting depends on if multiple persons will be using the same space/equipment that day. Even if cleaning staff are disinfecting frequently, it's good to wash hands frequently and not touch mucus membranes.

C2. What considerations and protective measures can and should be taken for educators who live with at-risk family members? High quality PPE should be available to these educators, although the safest measure is to continue with virtual instruction. If in-person instruction is unavoidable and this person works with a stu

dent who is unable to tolerate a mask, then additional protective measures can include those being done by healthcare workers (changing clothes/showering upon getting home and possibly wearing a mask at home).

C3. What recommendations would you make for students with chronic conditions, specifically asthma, anaphylaxis, diabetes, cardiac concerns, hypertension, kidney disease, and pulmonary concerns? If possible, continue with remote learning until better treatments/a vaccine are available. If in-person learning is unavoidable, opt for classes that meet outside with all masked and distant.

C4. If a student tests positive for COVID, what additional procedures should be in place for their siblings and the classrooms and schools sites of those siblings? Siblings should be quarantined for 14 days from last exposure to their infected sibling and ideally tested before returning.

Richard Garfein:

Response to Questions for SDUSD

- Q1a. Yes, I agree that County Triggers (especially #s 1, 2, 10, and possibly 11 and 12) should be used as a basis for determining when schools may be reopened; however, schools must have an acceptable health and safety plan in place before reopening regardless of the status of the County Triggers.
- Q1b. According to a report by the National Academies of Sciences, Engineering, and Medicine, "In grades K-3, children are still developing the skills to regulate their own behavior, emotions, and attention, and therefore struggle with distance learning. Schools should prioritize reopening for grades K-5 and for students with special needs who would be best served by in-person instruction." (<https://www.nap.edu/catalog/25858/reopening-k-12-schools-during-the-covid-19-pandemic-prioritizing>) If a phased approach is adopted, the decision to expand the reopening to higher grade levels should be based on how effective the plan is that is implemented for lower grades. School-specific metrics (e.g., number of students/teachers who test positive; number of clusters occurring in schools; etc.) should be used rather than the County Triggers alone.
- Q2. Having all windows open on a bus at all times may be unreasonable at certain times of the year; therefore, distancing and mask wearing should be implemented under a worst-case scenario strategy (i.e., assume windows must be closed).
- Q3a. Opening doors and windows to allow outside air to dilute the concentration of aerosolized virus in a classroom is beneficial. Whether this is easily accomplished and whether it is as effective as upgrading the HVAC filters to MERV 13 depends on too many factors (e.g., room configuration and size, number of students and teachers present, outside climate, etc.) to say with certainty and without additional studies.
- Q3b. MERV 8 filters only filter out 20% of particles in the range of SARS-CoV-2 viral particles (1-3 μm), whereas MERV 13 filters remove 85% of particles this size. Thus, MERV 8 filters will do little to reduce the risk of COVID-19. (<https://www.secondnature.com/blog/staying-healthy/what-merv-rating-should-i-use>)
- Q3c. Unable to comment.
- Q3d. Unable to comment.
- Q3e. Fans may actually increase the risk of COVID-19 transmission in closed spaces because droplets that might otherwise settle out of the air could be circulated greater distances than in a still-air space. However, I defer to Dr. Prather's expertise on this topic.
- Q4a-Q4e, Q4g. Questions about barriers and distancing may be better addressed by someone with expertise in this area such as Dr. Prather.
- Q4f. Cohorting students is recommended. Note that cohorting does not prevent children, teachers or staff from becoming infected outside of school and exposing members of their cohort in schools. Cohorting does not make it safe forego masks and distancing. It is intended to minimize the spread throughout a school if an infected person introduces the virus into the school setting. Thus, it is unclear what is meant by "Pre-schools have successfully "cohorted" groups of 10 students..."
- Q4h. This will really depend on ventilation. For example, in a closed room with inadequate ventilation, the quantity of aerosols could accumulate to a dangerous level so that 6 ft distance is insufficient.
- Q5a. In addition to playground equipment (i.e., bars, swings, seesaws, etc.), schools should also consider other play activities that involve the use of balls (i.e., handball, 4-square, basketball, etc.). These activities may be played at a safe distance if well supervised. Handwashing and ball disinfecting before and after use should be practiced.
- Q5b. Viable virus has been detected on metal and plastic surfaces for multiple days following exposure. Since temperature, humidity and UV light exposure all affect the survival of the virus, and the child would have to touch their eyes, nose or mouth with contaminated hands to become infected, the risk of infection from playground equipment is likely to be low. However, more studies are needed to estimate the true risk. Since UV light is diminished in the late afternoon and not present at night, nor does it reach shadowed surfaces, UV light from natural sources should not be relied on to disinfect high-touch surfaces like railings. These surfaces should be disinfected on a regular basis (at least daily).

Q5c. If hands are washed appropriately, hand dryers should be as safe as paper towels for drying hands.

Q5d. Unable to comment.

Q6a. An important consideration for children who cannot wear masks is their risk of being exposed outside of school and bringing the virus to school. As mentioned in the CDC Recommendations, "Evidence from other countries suggests that the majority of children with COVID-19 were infected by a family member. [13]" The family members of these (actually all) children should be counseled to take precautions to avoid exposing the child. That means minimizing opportunities for exposures outside the family unit and wearing masks around the child at home when necessary to avoid infecting the child.

Q6b. Unable to comment.

Q6c. Unless the drape completely surrounds the face shield to prevent aerosols from escaping around the bottom and sides of the shield, the face shield and drape does not offer adequate protection from source cases. As the image below shows, droplets and aerosols will be deflected to the sides and back of the wearer instead of being captured the way a mask does. Therefore, children who cannot wear as face mask should only be allowed in well-ventilated rooms and may require >6 feet of distance.

Q7a. Unable to comment

Q7b. Unable to comment

Q7c. Only 60% of infected children present with fever; therefore, temperature screening will have a high rate of false negatives and could create a false sense of security among teachers and students that undermine efforts to promote physical distancing and mask wearing. While it is important to exclude children who have fevers, this strategy must not subvert attention or resources from methods that are known to prevent transmission from pre/asymptomatic individuals.

Q8a. Since the objective of the school safety plan is to prevent transmission of the virus in the school setting, the same standards used in healthcare settings to determine when and for how long individuals should be placed in isolation or quarantine should be the same. Testing negative should not be sufficient for an individual to return to work or school if they were a close contact of a known case.

Natasha Martin:

NEW QUESTIONS

1. Do you agree that the California Department of Health (CDPH) criteria (see above) to open schools is sufficient to keep students, educators, and families safe or would you recommend supplemental criteria

The CDPH criteria are not sufficient as they do not account for contact tracing metrics which are critical to controlling the epidemic. Testing in the absence of contact tracing will be unlikely to limit transmission and the associated effective reproduction number, and achieving $R < 1$ likely requires high efficacy of contact tracing even in the presence of social distancing.

Hence, I suggest the additional county trigger measures in relation to case investigation (>70% initiated within 24 hours of notification over a 7 day period) and contact tracing (make first contact attempt for >70% of close contacts of new positive cases within 24 hours of identification over a 7 day period) be used. Other proposed metrics are useful (e.g. R_0 , % of cases which give contacts) but unclear where these data will be obtained regularly.

The district should coordinate testing with the county or other labs (e.g. UCSD) so members with symptoms are able to receive timely appointments (within 24 hours) and results returned within 48 hours. With testing delays of 3 or more days, even perfect contact tracing efforts will likely fail to reduce the effective reproductive number below 1.

Asymptomatic and presymptomatic individuals are important contributors to transmission. Periodic asymptomatic testing could help identify outbreaks early, and if implemented at least monthly could reduce outbreak size. This may be particularly important among children because they are more likely to have asymptomatic or subclinical infection.

Paid leave should be provided for 14 days for those who require quarantine to prevent individuals from failing to disclose their exposure.

The CDC no longer recommends test-based isolation discontinuation unless under special circumstances.

3. Which, if any, of the recommended protocols for mitigation/suppression, including social distancing and masks, be effective without a comprehensive testing and contact tracing program?

Masking and social distancing are hugely important and are effective at preventing transmission. The effect on transmission is augmented when combined with testing, isolation, contact tracing, and quarantine. However, they are still effective even in the absence of testing/contact tracing.

4. Assuming the conditions for reopening are eventually met, under what conditions could protective safety measures such as masks and social distancing be relaxed?

When we have reached herd immunity levels in the population either naturally or with vaccination.

11. What additional procedures must be in place to protect against asymptomatic spread?

Masking, social distancing, ventilation, and sanitation can reduce the risk of asymptomatic transmission. Additionally, periodic asymptomatic testing can identify outbreaks early, and facilitate isolation/contact tracing from asymptomatic individuals.

12. Would reducing staff and student time on campus reduce transmission?

Yes. Modeling for K-12 schools in Pennsylvania indicates that reducing student time on campus through rotational scheduling (e.g. two-day-a-week rotation of two groups of students, weekly four-day rotations of two groups of students, or daily rotations of five groups of students each attending one day per week) can lengthen the time to the first five infections by >5 fold.

OLD QUESTIONS

8. **Questions:** Adopt the CDPH guide for closing schools/classrooms?

I disagree with the state guidance that after reopening in person, schools do not need to close again if the county is placed on the monitoring list. We should be using the same criteria for closure/reopening as we are using now. If the county is placed on the monitoring list then the schools should close until the county has been off the monitoring list for 14 days (and the suggested additional trigger measures above should not be triggered).

Kim Prather:

Masks, aerosols, and airborne exposure are my areas of expertise.

In May 2020, I published a Science Perspective with infectious disease expert Dr. Chip Schooley entitled “Reducing Airborne Transmission of SARS-CoV-2. A figure from this paper “Masks Reduce Airborne Transmission” is shown in Section 6 of this document which illustrates why universal masking is critical for reducing the spread of the virus that leads to COVID-19.

2. Transportation

2. Response to Questions

- 2a) Note that current estimates suggest that as many as 50% of infected individuals with COVID-19 do not have symptoms such as a fever so temperature checks will not filter out sick individuals. Thus, widespread testing is critical and needs to be done regardless of symptoms. Because of the potential spread by individuals who do not know they are sick, requiring masks for everyone is essential for source control.
- 2b) Face shields with a drape are not adequate for any spacing in crowded indoor space as aerosols (produced when speaking by individuals with NO symptoms) can escape around edges and through any gaps. A mask is needed to provide source control. 6 foot spacing will reduce exposure risk—needs to be at least 6 ft and masks should be on at all times during transport.
- 2c) I would not transport a student who cannot tolerate any face covering in a bus.

3. Ventilation

Tiny particles that contain the COVID-19 virus can float in the air, potentially infecting someone that was never in close contact with an infected person.

Long-range transmission refers to transmission of virus in aerosols, which may be generated when an infectious person exhales, speaks, sneezes, or coughs and then travel out of the immediate 6-foot vicinity of the infectious person via airflow patterns. This airborne virus can remain aloft for more than an hour indoors to infect people who are not interacting closely with the infectious person. Long-range airborne transmission can be minimized by, among other things, increasing outdoor air ventilation to dilute the concentration of airborne virus or filtering air recirculating in a room or building.

Bringing more “fresh air” into a room/building can dilute particles that contain viruses and reduce the risk that someone would breathe in enough virus to become infected. Schools may rely on mechanical or natural ventilation to bring fresh air into the building.

General Filter Statement

Filters with higher MERV ratings remove higher percentages of particles and more effectively remove small particles than filters with lower MERV ratings. Filters with MERV ratings of 13 or higher are recommended for SARS-CoV-2 by ASHRAE. Filters need to be periodically replaced and inspected to make sure they are sealed and fitted properly, with no gaps or air bypass. In some cases, if the airflow distribution system is not designed to handle a higher MERV filter, air could leak around the filter edges, compromising any benefit that might have even been gained from a lower MERV filter.

3. Response to Questions

- 3a and 3b. All filters with MERV ratings of 13 and above are needed to efficiently filter SARSCoV-2 virus based on its size (~1-5 microns).
- 3c. In tight/closed spaces with poor ventilation can be supplemented with portable air cleaners:

Portable air cleaners with high-efficiency particulate air (HEPA) filters may be useful to reduce exposures to airborne droplets and aerosols emitted from infectious individuals in buildings.

Portable air cleaners are typically most effective in smaller spaces, and care must be taken when choosing a device to ensure it is the correct size for the room where it will be used. One metric to consider is the clean air delivery rate (CADR). The CADR reflects both the amount of air that a unit can process per unit time and the particle removal efficiency of the filter. A helpful rule of thumb is that for every 250 square feet of space, a CADR of about 100 cfm is desirable. CADR is not the only factor to consider. Portable air cleaners vary in their ability to circulate air in the room, so not all devices with the same CADR rating are equiv-

alent. Devices that provide better mixing of the indoor air can capture particles from more of the room's airspace and are therefore preferred. Because potential viral sources could be in various locations within a room, it may be beneficial to have several units that meet the target CADR values rather than a single larger unit. In larger spaces, industrial-sized supplemental ventilation and filtration units are available and should be considered. Furthermore, room airflow patterns and the distribution of people in the room should be considered when deciding on air cleaner placement that maximizes source control and prevents airflow from crossing people. Since air cleaners should be operated while people are present, it may be important to compare different models to find one that does not generate disruptive noise.

Portable air cleaners with high-efficiency particulate air (HEPA) filters may be useful to reduce exposure to viruses emitted from infectious individuals. However, devices have to be the right size for the room and placement should be carefully considered. For a standard classroom, one useful metric is the "Clean Air Delivery Rate" of the unit, or CADR, which should be about 100 cubic feet of air cleaned per minute (cfm) per 250 square feet. (CADR can be measured differently, so look for the CADR for 'smoke particles,' rather than dust or pollen, because smoke particles are smaller.)

Great care should be used when replacing filters in portable air cleaners, as active viruses may be present on the filter. Filters should be replaced when classes are not meeting by a person wearing goggles, a mask, and gloves. The filter should be removed carefully and placed in a large tie-off garbage bag with immediate disposal.

3d. If MERV 13 is difficult to achieve with what is normally an air conditioned or heated classroom, can just turning it off and opening windows and doors (with or without a ceiling fan) be a reasonable alternative? No, it is safest to use MERV 13 (or above). Proper room ventilation and filtration are KEY for reducing exposure to SARS-CoV-2.

3e. Do ceiling fans or portable fans add any value in classrooms that do not have good natural ventilation? Caution must be exercised when adding fans—they can be used to pull in fresh outdoor air which is pumped out. Adding fans inside the room near students to push air around inside should not be done (as this can transport infectious aerosols from one student to another).

"Mechanical ventilation" systems forcibly bring in outdoor air and distribute it throughout the building. There are established standards for the amount of fresh air coming into the building that schools should meet or exceed (called the ASHRAE 62.1 2019 – Ventilation for Acceptable Indoor Air Quality Standards). When possible, schools should increase the amount of outdoor air brought into the building beyond this standard. All re-circulated air should pass through a high efficiency filter. Schools should also consider keeping the ventilation system running even outside of normal school hours (e.g., when janitorial staff is there, extracurricular activities, arrival/departure).

If the school relies on "natural ventilation," then the amount of outdoor air coming in can be increased by opening classroom windows or other mechanisms (e.g., roof ventilators). Window fans or box fans positioned in open windows to blow fresh outdoor air into the classroom via one window and indoor air out of the classroom via another window may help to sustain and increase fresh air in the classroom.

4. Distancing
Maintaining at least 6 ft distance at all times is important. Crowded indoor spaces with kids talking and low ventilation is the highest risk situation. Even at >6 ft, masks should be worn inside at all times. Outdoor exposure risk is much lower as air is rapidly diluted with clean air outside. More dilution happens over longer distances—thus, the further away, the safer.

4. Response to Questions:

4a. Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening?

Face coverings should always be worn (properly).

The further desks can be apart, the better. 6 ft is ideal even with a shield—as tiny particles (aerosols) can easily float around barriers (which are not air tight).

4b. Assuming barriers are a good option when 6 feet is not possible, are there other requirements? eg. does it make a difference how students are facing one another (see Appendix 1 for different classroom setups).

eg. Should they always have face coverings on, even when behind these barriers?

If barriers are in place and face masks are worn, the orientation of the desks is less important.

- 4c. Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors? *If face masks are removed, the students should eat outside ideally. If they must be inside, limit the number of students and amount of time spent indoors with masks off as much as possible. Make sure they are a minimum of 6 ft apart—ideally further when their masks are off. Ideally, do not allow talking when masks are off.*
- 4d. Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate? Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place? *If masks are worn and barriers are in place, the desk for teacher and student can be closer. Note that if the teacher is talking (as expected), more distance is always best to limit risk for the closest student.*
- 4e. Is a student with both a face covering and face shield a form of a barrier between students and teacher? Students and students? *Yes, face coverings w/ a shield is an excellent combination. Face shields alone are NEVER adequate.*
- 4f. Preschools have successfully “cohorted” groups of 10 students (no distancing, no face coverings). Could that apply to kindergarten? 1st graders? Other ages of students? *Masks should be worn by everyone at school for all ages. Cohorting as a secondary protection (in case masks fall off or are not worn properly) is a good idea.*
- The latest available data indicate that, while children who are infected with COVID-19 are more likely to be asymptomatic and less likely to experience severe disease (though a small subset become quite sick), they are capable of transmitting to both children and adults.
 - What remains unclear and where evidence is still needed is: whether children are less likely to be infected than adults and, when infected, the frequency and extent of their transmission to others. There is some evidence for an age gradient in infectiousness, with younger children less likely and older children more likely to transmit at levels similar to adults. • While other countries that reopened schools have generally not experienced outbreaks in school settings, almost all had significantly lower levels of community transmission than the U.S. and greater testing and contact tracing capacity. Moreover, several disease clusters connected to schools and children have been reported. • Taken together, the evidence indicates that where there is already widespread community transmission, as in many areas in the U.S., there is clearly a risk of further spread associated with reopening schools. The risks of reopening need to be considered carefully in light of the recognized benefits of in-person education.
- 4g. Bathrooms: Any recommendations on how to establish a safe maximum number of students to be in restrooms at any given time? *One student at a time ideally (traffic signal/light outside or flip sign). If 2 (or more) need to be in the bathroom masks should be worn, talking should be discouraged, and minimum 6 ft distance needs to be maintained.*
- 4h. Is it ever necessary to exceed CDC guidelines? *Intensity, frequency, and duration control amount of exposure. More frequent, more intense, and longer duration increase risk. Thus, time indoors should always be kept to a minimum. 4-5 hours is too long to spend without a break in indoor spaces. Exposure risk goes up the longer one stays indoors. More occupants increases risk even further.*

6. Face Coverings

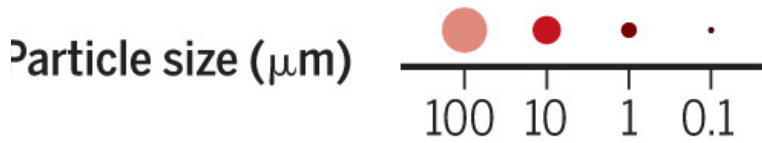
Wearing face coverings is key to reducing the spread of COVID-19. Two face masks with 50% efficiency (relatively low) lead to a 75% reducing in “dose” which will reduce the chances of becoming ill. It is also suggested that by reducing the dose, IF someone becomes infected, the severity of the disease will be much less (often asymptomatic).

General Statement on face coverings (taken from <https://schools.forhealth.org/risk-reductionstrategies-for-reopening-schools/faqs/>)

Research shows universal mask wearing, even of homemade masks, significantly reduces the risk of COVID-19 transmission. Because transmission can happen even when one is physically distant from others, masks

Masks reduce airborne transmission

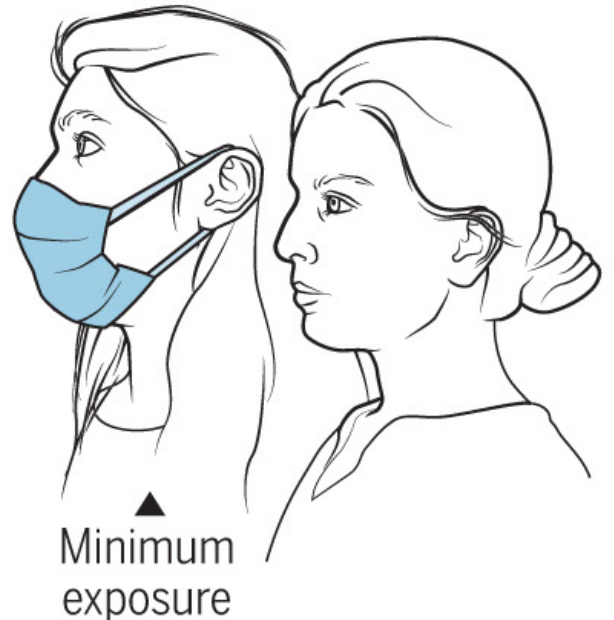
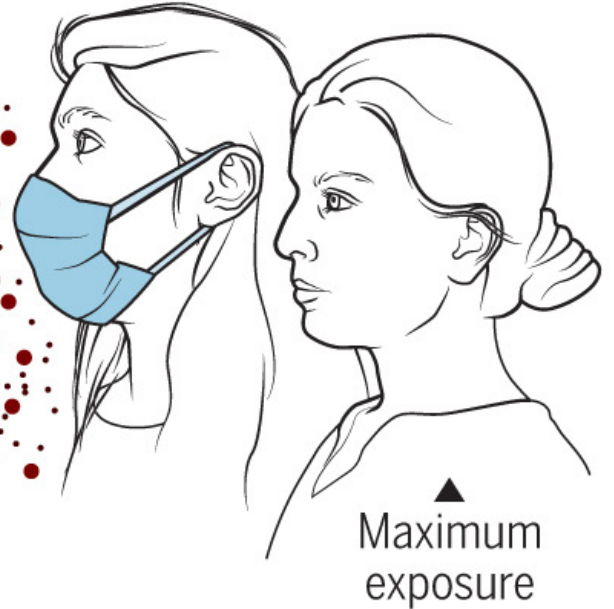
Infectious aerosol particles can be released during breathing and speaking by asymptomatic infected individuals. No masking maximizes exposure, whereas universal masking results in the least exposure.



Infected, asymptomatic



Healthy



should be required for everyone on school property – students, teachers, staff, and parents. Masks should also be required on school buses. Schools should have plans to enforce mask wearing on campus and on buses.

To address mask fatigue, “mask breaks” throughout the day may be scheduled during times when transmission risk is relatively lower, such as quiet reading time or outdoor recess. However, during times when a teacher or students are talking and when students are in contact with individuals outside of their class (e.g., in the hallways), masks should be worn. In places where masks are not being worn for short periods of time, extra care should be taken to implement other control strategies, like higher ventilation rates, better filtration, and group distancing to minimize contact with other classes and students at the school.

Proper mask-wearing hygiene and cleaning procedures are important for effective use. Schools should follow guidance from the Centers for Disease Control and Prevention (CDC) and advise students and families on how to care for masks (e.g., clean). If there are concerns about parent, student, or teacher ability to obtain and care for a mask, the school should make them available to everyone.

6. Response to Questions:

6a. For students who cannot tolerate a mask, but are well enough to be in a regular classroom, what other protective strategies, if any, would be effective and acceptable to protecting others? (e.g., plastic barriers, face shield alone, face shield with drape), that we can employ to protect others indoors? Or must they be at home? Or does this depend on the density of the classroom? Or on the number or age of students without a face covering? If so, what ‘formula’?

Students must wear face coverings – masks are best – otherwise, there is a risk they could be exposing others even without any symptoms such as a temperature or coughing/sneezing. If testing is being conducted on a regular basis, this could help-although a negative test one day does eliminate risk as incorrect negative results have been shown to occur. If someone cannot wear a mask, it is best to have them alone in a room – or at a minimum in a highly ventilated room with a small cohort of students at 6 ft minimum distance.

Taken from K. A. Prather, C. C. Wang, R. T. Schooley, Reducing transmission of SARS-CoV-2. *Science* 368, 1422-1424 (2020).

6b and 6c. All students who are near other students/staff/teachers should wear face masks. Face shields are not sufficient.

7. Temperature checks

For COVID-19, there is a significant fraction of infectious individuals who never develop symptoms and can be contagious for up to 14 days. Thus, temperature checks should be taken into consideration with this in mind. Social distancing, masks, avoiding crowded indoor spaces for extensive periods of time, washing hands, good ventilation are all critical for reducing risks in a school setting.

Note that a number of excerpts and recommendations given in this document were taken from the document *Schools for Health: Risk Reduction Strategies from Reopening Schools* written by the Harvard T.H. Chan School of Public Health Buildings program.

Links with further information are given below.

https://schools.forhealth.org/wp-content/uploads/sites/19/2020/06/Harvard-Healthy_BuildingsProgram-Schools-For-Health-Reopening-Covid19-June2020.pdf

<https://schools.forhealth.org/risk-reduction-strategies-for-reopening-schools/faqs/>

Jones E, Young A, Clevenger K, Salimifard P, Wu E, Lahaie Luna M, Lahvis M, Lang J, Bliss M, Azimi P, Cedeno-Laurent J, Wilson C, Allen J. *Healthy Schools: Risk Reduction Strategies for Reopening Schools*. Harvard T.H. Chan School of Public Health Healthy Buildings program. June, 2020.

Mark Sawyer:

My answers to questions I felt I had some expertise to answer:

1. A) Yes, agree with using CDPH criteria for determining when the burden of disease in the community is at a level where reopening would be appropriate. Schools are a very controlled environment and are much less likely to create an outbreak than commercial establishments where compliance and enforcement is highly variable.
1. B) I think the data is good that children under 10 are at lower risk to transmit so it would be reasonable to have different criteria for opening elementary schools. You could consider a higher threshold for the triggers to open elementary schools or, if testing availability, PPE, or cleaning supplies were limited you could open elementary schools and wait for those crucial supplies to become more available before opening higher level schools.
2. A) Need contingency plan for keeping the windows of the bus open when it is raining.
2. B) face shield with drape is adequate for 6 foot spacing assuming that the supervision is adequate to make sure the face shield stays on and the drape is in place to minimize large droplet spread. Face shield/ drape is probably somewhat less effective than a tighter fitting mask but would provide some source control and also decrease hands touching the face thus decreasing the chance of infection. I am counting on the 6 foot spacing to eliminate most droplets, so I am not comfortable with 3 foot spacing in this scenario.
2. C) I would suggest not transporting a student who cannot tolerate any face covering in a bus. We are counting on face coverings to minimize droplets.
4. A) Yes, agree that the barriers can allow spacing of less than 6 feet assuming there is sufficient personnel to monitor the students to make sure they are not peeking over or around the barrier.
4. B) Yes, they should have face covering on even when behind the barriers. We know face coverings decrease aerosols. We know much less about the efficacy of barriers alone. I think it is OK for them to face each other with barriers in place between them.
4. C) I am reluctant to have students within 6 feet without a face covering (i.e. when eating). I would consider staggered eating times for students at the same desk separated by a barrier but less than 6 feet apart. We are instructing healthcare workers in the hospital to stay 6 feet apart when eating.
4. D) 6 feet is adequate spacing from students for the teacher/adults. It would also be acceptable for the spacing to be less than 6 feet if there was a barrier in place. The 6 foot rule is to minimize medium to large droplet spread and I think the barriers should be effective when spacing of less than 6 feet is required.
4. E) I assume this question implies close contact situations. I would suggest that both parties wear a face shield and a face covering to prevent inoculation through the eye and minimize touching of the face.
4. F) Cohorting is second best to face coverings as a single preventative measure, thus I would suggest that it only be used for the youngest children who cannot effectively keep masks on (e.g. <7-8 years of age). The smaller the cohort the better.
4. G) Keep the same distancing guidelines when using the bathroom
4. H) If steps are taken to maximize the ventilation (e.g. open windows) then I would consider 6 feet to be acceptable spacing to consider an individual to not be a close contact, even for prolonged periods.
6. A) I would consider plastic barriers and face shields with a drape to be adequate source control to allow students in the classroom. Certainly for students under 10 years of age who are less likely to transmit infection. If the student can't tolerate any face covering or shield of any kind then I don't think they should be in the classroom.
6. B) I would require face coverings for all grades. Kindergarten students should be able to wear a face covering, although less reliably than older children.
6. C) I would consider face shield with a drape to be less effective source control although there is little data about this combination. I would couple it with barriers and 6 foot spacing to allow a student with a face shield/drape in the classroom. The 6 foot spacing will eliminate the majority of droplets and the face/

shield/drape cut down on the remainder.

7. A) 100.4 is the accepted standard for fever for both students and adults

7.B) I don't think the benefits of temperature screening outweigh the benefits for students because it will create situations that promote crowding. I think staff can have temperature checks as we are doing at hospital entrances.

Additional questions labelled "SDEA"

A. Opening/Closing Schools

- 1.a.i. I don't think these additional measures of virus spread are necessary to consider reopening schools. Although these metrics are used for some community-level policies, the proposed school guidelines that include face coverings and enforcement of social distancing will provide reasonable protection despite a higher level of infection in the community.
- 1.a.iii I don't think these levels of contact tracing are required for school reopening since measures will be in place to minimize admission of symptomatic cases and inadvertent spread from asymptomatic students and staff.
- 1.a.ii I don't think testing for anyone, regardless of symptoms, is useful in the school setting. Given the measures that will be in place to prevent infection, the likelihood of such testing identifying asymptomatic staff will be very low. This is not being done in hospital settings and would exacerbate the shortage of testing reagents.
- 1.b.i Potentially exposed individuals should have access to rapid testing and should not work at least until the test results are available, and potentially longer.
- 1.b.ii Retesting after infection should not be part of the criteria for return to work. CDC and CDPH endorse a time-based formula for safe return to group settings after infection. Positive testing late after infection has not been associated with transmission of disease.
2. County-level metrics of disease activity should be sufficient to decide on school opening and closure. That approach has served us well at the community level so should also be adequate for school decisions.
5. Social distancing, surface decontamination, and face coverings should be adequate in a controlled school setting to minimize transmission. These are the measures being employed in hospitals.

B. Site Conditions

- 3.a/b. PPE should include masks when socially distanced and masks plus face shields when in close contact with students. The grade level of students is not important.
- 3.c. Face mask when within 6 feet.
- 3.d/e/f/g/h/i/j. Same as teachers
4. Students should not share materials of any kind unless they can be decontaminated with an ethanol containing wipe.
5. I think barriers between students in addition to face coverings can allow spacing of less than 6 feet.
7. The screening procedures proposed are adequate.
8. 6 foot spacing should be maintained when eating or when engaged in other activities that prevent face coverings.
10. Face shields by themselves are not a substitute for face coverings.
11. Proposed distancing, face coverings, and decontamination steps are adequate to prevent asymptomatic infection
13. A face mask and surgical mask could be used to protect staff who must be in contact with students who can't wear a face covering.

C. Additional Questions

TRIGGERS FOR MODIFYING HEALTH OFFICER ORDER

HEALTH OFFICER ORDER WILL BE MODIFIED WHEN ANY ONE OF THE FOLLOWING THREE CRITERIA ARE MET: COMMUNITY OUTBREAKS, PPE SUPPLY, OR ICU CAPACITY*; **OR** ONE OR MORE OF REMAINING CRITERIA IN AT LEAST 2 OF 3 COLUMNS ARE MET.

Epidemiology (Surveillance)	Healthcare (Hospital Capacity)	Public Health (Response)
<p>1. Case Rate: Greater than 100 per 100,000 for the 14-day case rate, measured using date of illness onset with a 3-day lag County = calculated with County of San Diego data State = California Department of Public Health's calculation for San Diego County</p> <p>2. Community Outbreaks: Seven or more new outbreaks in community settings in a 7-day period*</p> <p>3. COVID-Syndromic: Upward trajectory of COVID-like syndromic cases reported within a 14-day period</p> <p>4. ILI: Upward trajectory of influenza-like illnesses (ILI) reported within a 14-day period</p>	<p>5. Hospital Capacity: Approach 80% capacity for all hospital beds in the county</p> <p>6. Increasing Hospitalizations: >10% increase in the number of confirmed COVID-19 patients currently hospitalized, measured as an average of the past 3 days and compared to the average of the 3 days prior</p> <p>7. Limited Intensive Care Unit (ICU) Capacity: <20% availability of ICU beds*</p> <p>8. Limited Ventilator Capacity: <25% availability of ventilators</p> <p>9. PPE Supply: ≤ 50% of hospitals have at least a 22-day supply of PPE*</p>	<p>10. Testing Positivity: Greater than 8% of positive tests as a percent of total tests, measured using specimen collection date in a 7-day period with a 7-day lag</p> <p>11. Case Investigation: 70% or less of investigations are initiated within 24 hours of notification over a 7-day period</p> <p>12. Contact Tracing: Make first contact attempt for 70% or less of close contacts of new positive cases within 24 hours of identification over a 7-day period</p> <p>13. Homeless Population: Temporary shelter available for less than 15% of homeless population (e.g., space constraints, medically vulnerable household members, or otherwise)</p>
<p>■ County Metric</p>	<p>■ Reverse Attestation Metric</p>	<p>■ New State Metric</p>

2. The precautions already proposed should be adequate for educators who live with at-risk family members.

Chip Schooley:

QUESTIONS FOR UCSD SCIENTIFIC PANEL (from District Administration)

Directions

1. Answer only those questions for which you feel comfortable. If you do answer it, please identify whether that questions' topic pertains to your area of expertise.
2. Send your answers in either the body of an email or on a separate word document.
3. To each question you choose to answer, please refer to the question number you are responding to (e.g., Question 6b).
4. If you have questions about the unique conditions in a school setting, reach Dr. Howard Taras by email or phone.

THANK YOU !!

1. Conditions suitable for opening schools

Proposed plan is to follow the CDPH criteria to open schools based on "Triggers for Modifying Health Officer Order", which can be seen in the miniature image below, or more clearly through this hyperlink. https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/Epidemiology/Triggers_for_Modifying_HOO.pdf

1. Questions

- a) Do you agree with the California Department of Health (CDPH) criteria to open schools based on "Triggers for Modifying Health Officer Order", based on case rates and other current epidemiology, hospital capacity and the public health system's capacity to respond? It is more stringent than NY State. Agree with California/San Diego? *It is difficult to read the above but the criterial laid out in the pdf are reasonable.*
- b) Do you think a phased re-opening (elementary first, for example) is warranted, as done in other nations? If so, how would that relate to above "triggers for re-opening criteria"? *yes. I would hold off on most in person high school instruction until community spread is substantially lower*

NOTE: Questions 2 through 9 (below) assume that schools can re-open based on criteria so that there is a lower prevalence of disease than exists today (July 24, 2020) and there is more robust public health support than there is today

2. Transportation / Busing:

Proposed bus plan is to sanitize all touchable surfaces in the bus after all students are dropped off (typically twice per day). As for distancing, as discussed with county health officials, are to either have students 6 feet apart, or we will have students as close as 3 feet apart on buses as long as several other conditions were met. Recognize that bus rides are very typically in the range of 1 hour, in each direction.

- All adults (bus driver, bus monitor) are wearing face coverings; Staff will wear face shields as well, when in closer proximity than 6 feet to students (e.g. bus driver when fastening wheel chair to bus floor).
- All students 3 feet from others are wearing face coverings.
- Symptom checks occur prior to entering the bus (either by parent report or by staff directly checking temperature),
- All windows on bus are open
- All students are facing forward
- Adults (bus driver, bus monitor) are always 6 feet away from one another and from students, excepting transiently when assisting a student. At these times, they will be offered face shields in addition to their face covering.
- Daily seating maps (who sat where) are taken daily to identify 'close contacts' of any student or staff member who tests positive several days later.
- Students are supervised so that they do keep at least 3 feet apart and are wearing their face coverings properly.

- Students from same household will be permitted to sit right next to one another.

2. Questions

- a) Any additions to this plan? *no*
- b) If a student cannot tolerate face coverings, will a face shield with a gator (drape) be adequate protection for others? At 3 feet? At 6 feet? *No. If they cannot tolerate face coverings, they should not be on the bus.*
- c) If a student cannot tolerate face covering or face shield drape, can that student be transported to a school by bus at all? *As above, no.*

3. Ventilation

Proposed plan is to keep windows open and door open for cross-ventilation for classrooms that have windows; A/C and heat will be on, based on temperature, and running with highest outdoor air capacity. Less efficient for temperature change. If classroom has ceiling fan, it will be on. For “loft” classrooms (no windows), doors will be open, and HVAC systems will maximize outdoor air. Most of our current systems have MERV 8 filters. MERV 13 filters cannot fit these systems, as designed. Singing, choirs, and wind instruments will not be permitted in any of these classrooms or any other indoor space; Even outdoors, choirs and group singing may be discouraged.

Students who use Nebulizers to take medications will either need to use another form of medication delivery, or use the nebulizers outdoors. Students who require suctioning (oral, nasal, pharyngeal) will either need to have this done outdoors at school, or have learning outside of the school setting.

3. Questions:

- a) Is running the HVAC system with the doors and windows open a safe alternative to upgrading filters? *yes*
- b) Does the panel recommend changing filters in our HVAC systems to a higher level than MERV 8, even if that does not get as high as 13? In other words, is any MERV numbered filter higher than our current MERV 8 an improvement and increase defense against COVID? Or based on particle size of the COVID virus, is it only when the filter is a MERV 13 or higher that there is an impact against COVID? *The most important issue is air exchange. If ventilation systems will drive higher numbered filters, it would be advisable to use them if they don't compromise the integrity of the system or the number of air exchanges per hour.*
- c) Do room devices such as HEPA air purifiers add any value, when HVAC systems are operating with filters less than MERV 13? *We believe so. If they can be installed, it would be advisable to install them where possible.*
- d) If MERV 13 is difficult to achieve with what is normally an air conditioned or heated classroom, can just turning it off and opening windows and doors (with or without a ceiling fan) be a reasonable alternative? *Yes, depending on the room density*
- e) Do ceiling fans or portable fans add any value in classrooms that do not have good natural ventilation? *Not unless they increase air exchange with the outside. Blowing the same air around inside is of no benefit.*

4. Distancing

Proposed plan: All staff members in the classroom will be stationed 6 feet apart from students and 6 feet apart from one another. Students will be 6 feet apart, unless there are too many students in a classroom to allow 6 foot distances between students. In these circumstances, the County health department has sanctioned using physical barriers between students who are proximate, as long as these barriers extend over the top of students' heads and beyond the backs of their heads when they are seated at their chairs. [See appendix 1, for a visual mock-up.] Barriers are 2 feet high off of the desk and extend 18 inches out past the edge of the desk to extend beyond each student's head. Designed not to disrupt room ventilation, but add a barrier between one student and another.

Exceptions in proposed plan for teacher-student distances are: (a) when a teacher is assisting a student at his/her desk. When that occurs the teacher will be instructed to keep duration brief (a few minutes), and give the

teacher the option to add a face shield during those moments; (b) Staff serving students with special needs. Special education teachers, speech therapists, OTs, PTs, LVNs and teachers' aids will need to spend prolonged time with a student (e.g., during therapy, feeding student, etc). For these staff members, when the duration of close contact is anticipated to be long or when the student does not have control of secretions (spitter, for example), then PPE must be used: This includes water resistant disposable gowns, face shields, gloves, and either N95 (if available), or KN95 or surgical masks.

4. Questions:

- a) Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? No. I do not agree with this plan. If students must be closer than 6 feet, the overall room density is excessive and there is a risk of aerosol accumulation. Barriers will not protect against aerosols. What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening? *No. Until testing rates are less than 1% no relaxation of protective measures should be entertained.*
- b) Assuming barriers are a good option when 6 feet is not possible, are there other requirements? E.G. does it make a difference how students are facing one another (see Appendix 1 for different classroom setups). E.G. Should they always have face coverings on, even when behind these barriers? *Barriers are not acceptable. Aerosols will travel about the room regardless of the direction individuals are facing.*
- c) Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors? *No. They should eat outdoors.*
- d) Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate? Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place? *No.*
- e) Is a student with both a face covering and face shield a form of a barrier between students and teacher? Students and students? *The most important protection is a properly fitted mask. Face shields add only marginal additional protection.*
- f) Preschools have successfully "cohorting" groups of 10 students (no distancing, no face coverings). Could that apply to kindergarten? 1st graders? Other ages of students? *I would strongly recommend against this policy at this time in view of the level of community spread in San Diego.*
- g) Bathrooms: Any recommendations on how to establish a safe maximum number of students to be in restrooms at any given time? *This is difficult to answer without knowing more about the size of the bathrooms and the level of ventilation.*

Definition of a "close contact"

- h) Is it ever necessary to exceed CDC guidelines? For example if two people are always 6 feet apart indoors, but that goes on for 4-5 hours in a classroom? (i.e., way over 15 minutes?) *The most important issues are face masks and overall classroom density.*

SDEA:

1. a. county level. Yes; I agree with CDPH guidelines as well as provisions about contact tracing and testing.
- b. I think it is important to be open about the number of students and faculty testing positive but I do not think their identities should be divulged outside the need to conduct exposure notification, isolation and quarantine. Identifying people by name to officials of the school or union as being SARS CoV-2 infected is a violation of privacy and could be counterproductive because it could deter people from being honest about symptoms or willing to be tested.

Testing coordination and availability must be as outlined.

Contact tracers should not notify school or union officials about the names of those contacted or found to be infected as outlined above.

Administrative leave is critical for quarantined staff.

I do not support test-based return to work. It does not reflect infectivity. Symptom and time-based return to

work criteria as laid out by the CDC should be used.

2. San Diego numbers are most critical for core regions of San Diego. If there are schools that draw heavily on staff or teachers from adjacent highly impacted counties, this should be reconsidered in these schools.
3. These are being worked out at UC San Diego. We would welcome the opportunity to work with SDUSD to implement this within the school system.
4. UCSD has worked out 5:1 pooling using self-collected anterior nares samples. We would welcome the opportunity to work with SDUSD to implement this within the school system.
5. Testing and contact tracing should be core components of the return to school program. Without these elements, it will not be possible to know whether mitigation steps are effective.
6. These should remain in place as long until an effective vaccine or more effective therapeutics are available. The virus has shown that it will return shortly after relaxation in multiple countries.

SITE CONDITIONS

1. Yes. They should remain closed.
2. No. The issue is the number of air exchanges per hour. Environmental engineers should be consulted.
3. A-e. All staff should wear snugly fitted surgical-style masks at all times on school property – and elsewhere except at home in the presence of their own families.
 - f.g. add face shields to masks and gloves if in touch with feces or saliva. Hand washing after glove removal is also essential.
 - h. counselors: masks for counselors and students. Consider zoom meetings.
 - i. same provisions in terms of PPE and testing as sessile faculty.
 - j. Masks. Set up well ventilated or outdoor locations when weather and other conditions permit.
4. Fomites are less important in the spread of coronaviruses than previously thought. Backpacks can be safely brought into the classroom. Food and water bottles should not be shared. Students should have their own pens, pencils and personal items. Handwipes and/or disinfecting hand liquids should be available. Desktops should be wiped whenever students change.
5. If desks cannot be spaced >6 feet, the class size should be limited to allow this. If this cannot be done, the classroom should not be used. If outdoor space is not available in situations like this, shifts must be staggered doo reduce density or the facility should not open.

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6. Students who cannot socially distance and wear masks should not be in school at this stage of the epidemic. The same students will not be socially distancing or wearing masks in the community and will be bringing the virus to school. This is an unacceptable risk.
7. Symptom screens. I would not recommend trying to take temperatures every morning on site. This is an insensitive indicator of infection and it will back people up in doorways.
8. Masks should be worn at recess and games should not involve physical contact. Lunch should be outdoors whenever possible. If lunch is indoors, rooms with sufficient ventilation must be used and students should not congregate closer than 6 feet. The time without masks should be limited to the time students are actually eating or drinking.
9. When desks are changed.
10. Never. They do not prevent the spread of aerosols.
11. Testing, isolation and quarantine plans should be in place.
12. Yes
13. Students who cannot wear masks should be home schooled until the epidemic is over. As above, if there is a likelihood that a student (or anyone_ is going to be spitting or coughing, face shields should be added to masks – preferably in both directions.

C. Additional questions

1. Disinfect desktops when there is a change in people at them. Masking – including during breaks – should be maintained except when in an office alone.
2. Additional asymptomatic testing should be considered. They should not be in situations in which students will unmask (e.g., at lunch)
3. Home is a safer place for these students and they should minimize time in public -depending on the degree of the risk factor. Parents and family members of these children should be particularly assiduous about masking when not at home.
4. Attack rates in households are ~20%. Siblings should remain at home until they have been through a quarantine period and should avoid contact with the infected sibling as much as possible.

Davey Smith, MD, MAS

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THANK YOU !!

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1. Questions

- a) Do you agree with the California Department of Health (CDPH) criteria to open schools based on "Triggers for Modifying Health Officer Order", based on case rates and other current epidemiology, hospital capacity and the public health system's capacity to respond? It is more stringent than NY State. Agree with California/San Diego? **Yes**
- b) Do you think a phased re-opening (elementary first, for example) is warranted, as done in other nations? If so, how would that relate to above "triggers for re-opening criteria"? **Yes, same triggers just start with elementary first**

NOTE: Questions 2 through 9 (below) assume that schools can re-open based on criteria so that there is a lower prevalence of disease than exists today (July 24, 2020) and there is more robust public health support than there is today

2. Transportation / Busing:

Proposed bus plan is to sanitize all touchable surfaces in the bus after all students are dropped off (typically twice per day). As for distancing, as discussed with county health officials, are to either have students 6 feet apart, or we will have students as close as 3 feet apart on buses as long as several other conditions were met. Recognize that bus rides are very typically in the range of 1 hour, in each direction.

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- All students 3 feet from others are wearing face coverings.
- Symptom checks occur prior to entering the bus (either by parent report or by staff directly checking temperature),
- All windows on bus are open
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- Adults (bus driver, bus monitor) are always 6 feet away from one another and from students, excepting transiently when assisting a student. At these times, they will be offered face shields in addition to their face covering.
- Daily seating maps (who sat where) are taken daily to identify 'close contacts' of any student or staff member who tests positive several days later.
- Students are supervised so that they do keep at least 3 feet apart and are wearing their face coverings properly.

- Students from same household will be permitted to sit right next to one another.

2. Questions

- a) Any additions to this plan? *Yes, outside learning and improved ventilation in classrooms. See below*
- b) If a student cannot tolerate face coverings, will a face shield with a gator(drape) be adequate protection for others? At 3 feet? At 6 feet? *Better than nothing but probably not adequate.*
- c) If a student cannot tolerate face covering or face shield drape, can that student be transported to a school by bus at all? *No*

3. Ventilation

Proposed plan is to keep windows open and door open for cross-ventilation for classrooms that have windows; A/C and heat will be on, based on temperature, and running with highest outdoor air capacity. Less efficient for temperature change. If classroom has ceiling fan, it will be on. For “loft” classrooms (no windows), doors will be open, and HVAC systems will maximize outdoor air. Most of our current systems have MERV 8 filters. MERV 13 filters cannot fit these systems, as designed. Singing, choirs, and wind instruments will not be permitted in any of these classrooms or any other indoor space; Even outdoors, choirs and group singing may be discouraged.

Students who use Nebulizers to take medications will either need to use another form of medication delivery, or use the nebulizers outdoors. Students who require suctioning (oral, nasal, pharyngeal) will either need to have this done outdoors at school, or have learning outside of the school setting.

3. Questions:

- a) Is running the HVAC system with the doors and windows open a safe alternative to upgrading filters? *No, but it is a good alternative*
- b) Does the panel recommend changing filters in our HVAC systems to a higher level than MERV 8, even if that does not get as high as 13? In other words, is any MERV numbered filter higher than our current MERV 8 an improvement and increase defense against COVID? Or based on particle size of the COVID virus, is it only when the filter is a MERV 13 or higher that there is an impact against COVID? *I do not know*
- c) Do room devices such as HEPA air purifiers add any value, when HVAC systems are operating with filters less than MERV 13? *I do not know*
- d) If MERV 13 is difficult to achieve with what is normally an air conditioned or heated classroom, can just turning it off and opening windows and doors (with or without a ceiling fan) be a reasonable alternative? *Not a reasonable alternative*
- e) Do ceiling fans or portable fans add any value in classrooms that do not have good natural ventilation? *Yes, they help*

4. Distancing

Proposed plan: All staff members in the classroom will be stationed 6 feet apart from students and 6 feet apart from one another. Students will be 6 feet apart, unless there are too many students in a classroom to allow 6 foot distances between students. In these circumstances, the County health department has sanctioned using physical barriers between students who are proximate, as long as these barriers extend over the top of students’ heads and beyond the backs of their heads when they are seated at their chairs. [See appendix 1, for a visual mock-up.] Barriers are 2 feet high off of the desk and extend 18 inches out past the edge of the desk to extend beyond each student’s head. Designed not to disrupt room ventilation, but add a barrier between one student and another.

Exceptions in proposed plan for teacher-student distances are: (a) when a teacher is assisting a student at his/her desk. When that occurs the teacher will be instructed to keep duration brief (a few minutes), and give the teacher the option to add a face shield during those moments; (b) Staff serving students with special needs. Special education teachers, speech therapists, OTs, PTs, LVNs and teachers’ aids will need to spend pro-

longed time with a student (e.g., during therapy, feeding student, etc). For these staff members, when the duration of close contact is anticipated to be long or when the student does not have control of secretions (spitter, for example), then PPE must be used: This includes water resistant disposable gowns, face shields, gloves, and either N95 (if available), or KN95 or surgical masks.

4. Questions:

- a) Do you agree that student desks in a classroom can be closer than 6 feet if these physical barriers are in place (Appendix 1)? What about when viral, testing, public health and hospital conditions are safer than criteria for re-opening? *I do not think that testing lessens the need for six feet distancing, but I am a strong proponent for testing.*
 - b) Assuming barriers are a good option when 6 feet is not possible, are there other requirements? E.G. does it make a difference how students are facing one another (see Appendix 1 for different classroom setups). E.G. Should they always have face coverings on, even when behind these barriers? *I think distance is the most important thing. These other options are sub-optimal*
 - c) Students will often eat at their desks indoors, and so they will have their face coverings off (and either 6 feet apart or behind a barrier). Is this acceptable or is there another option when they are not eating outdoors? *This maybe the most dangerous action. I think more than six feet with some barriers is important for eating*
 - d) Is six foot distance between the adult/teacher in the classroom and the nearest student desk appropriate? Can the adult/teacher's desk be closer to the nearest student desk if physical barriers are in place? *Yes, yes*
 - e) Is a student with both a face covering and face shield a form of a barrier between students and teacher? Students and students? *Yes*
 - f) Preschools have successfully "cohorted" groups of 10 students (no distancing, no face coverings). Could that apply to kindergarten? 1st graders? Other ages of students? *I think cohorting helps a lot to manage outbreaks, as long as there is not concurrency with cohorts. Cohorts are very useful when regular testing is occurring.*
 - g) Bathrooms: Any recommendations on how to establish a safe maximum number of students to be in restrooms at any given time? *Depends on the size of the bathroom*
- Definition of a "close contact"
- h) Is it ever necessary to exceed CDC guidelines? For example if two people are always 6 feet apart indoors, but that goes on for 4-5 hours in a classroom? (i.e., way over 15 minutes?) I think space and time is very important, but I do not know the equation that is needed here.

5. Disinfecting

Proposed plan: Each classroom will have at least one 60%+ ethyl alcohol hand sanitizer dispenser near to the entrance. Almost all elementary classrooms already have one sink and paper towels. There will be several hand washing stations (no touch; paper towels) outdoors between classroom buildings that do not have sinks.

Plan is for maintenance crew to disinfect all classroom (and other used rooms') surfaces every evening after students/staff leave. Teachers' face shields will be left on their desks, so that they are also disinfected with the room mist/fogger, etc.

Since, students and staff could be touching door knobs (indoors) and touching outdoor stairs and ramp railings, students will always be instructed to either hand sanitize or wash their hands just before and just after leaving their seats in the classroom. Also: before/after eating, before/after restroom; when blowing nose, coughing into hand, and when donning/doffing face covering.

Notices on restroom doors will be marked with maximum number of people permitted. If any sinks and urinals are closer together, there will either be a barrier between them or one will be blocked from usage.

Playground equipment will be permitted by any one "cohort" per day (i.e., one classroom), unless that equipment can be sanitized between different cohorts. When in use by students, they will be 3 feet apart from one another (with face coverings) and 6 feet apart (without face coverings). Students will be given hand sanitizer to

use (or soap/water) prior to using playground equipment.

Hand dryers in bathrooms are used after hands are washed with soap and water, so they will be permitted in restrooms.

Currently, this school district uses quaternary ammonium compounds to disinfect. There is much experience with it. The CDPH says to use hydrogen peroxide based products (EPA List N), to reduce risk of exacerbating asthma.

5. Questions

- a) Any additions to the above precautions?
- b) Is it necessary to disinfect playground equipment and outdoor railings after school or, because it is outdoors, left overnight, and exposed to UV, disinfecting is not needed? *Not needed*
- c) Hand Dryers: CDC/CPDH no longer requires paper towels instead of hand dryers; Any comments? *Agree*
- d) If the quaternary ammonium disinfectants are used, but only at night when all students/staff are gone, and left for many hours overnight when the scent has long gone, are they still of any health concern? No

6. Face Coverings

Proposed plan: All staff members and students K-12 will be expected to wear a face covering, even though the CDPH only “recommends” this for K-2nd grade .

Cloth polyester face coverings will be distributed and they must cover both nose and mouth. They will be provided by the district (several per year) and disposable ones will be handed to them when they are forgotten or too dirty or torn. Disposable masks will be provided at buses and at school entry points for these students who forgot them. Masks with valves will not be permitted, as they do not provide source control. Cleaning instructions for parents/staff will be provided for reusable masks.

Mask “breaks” will only occur outdoors, and when six feet from one another. Mask breaks will occur when eating indoors. For students who cannot tolerate a mask (anxiety disorders, sensory processing disorders, developmental delay or physical disability keeps them from removing it when suffocating, etc), they will be: always 6 feet from other students and either there will be a barrier (plastic/cardboard or Plexiglass, for example), or student will be given a face shield with a drape, if tolerated. If appropriate for that student, learning to tolerate a face covering will be made an educational goal. Students who cannot wear face coverings and none of the above alternative strategies are suitable, may not be able to be educated in a school setting.

Principals will be asked to purchase paper bags or paper manila envelopes for students to store their masks when they are outdoors taking a mask break (or doing PE) and when they are eating. They can be decorated by students, so that they do not get mistakenly interchanged.

6. Questions

- a) For students who cannot tolerate a mask, but are well enough to be in a regular classroom, what other protective strategies, if any, would be effective and acceptable to protecting others? (e.g., plastic barriers, face shield alone, face shield with drape), that we can employ to protect others indoors? Or must they be at home? Or does this depend on the density of the classroom? Or on the number or age of students without a face covering? If so, what ‘formula’? *I do not think we really know the equation here. My guess would be transmission is a function of density, ventilation and time.*
- b) For students kindergarten to grade 2, CDPH says face coverings are recommended, but not mandatory. It is mandatory for grades 3 and higher, unless there is an underlying medical condition? *I think the students may be fine but not the teachers*
- c) Is a face shield with a cloth drape an acceptable face covering instead of a cloth or paper mask, to protect others? For example, can this be considered source control, for students who cannot tolerate typical mask/face covering? *Yes*

NOTE: This does not appear to be adequate protection for school teachers who need to have their faces observed by students (deaf student program; kindergarten), as per this recent CDC Advisory on Face Coverings

7. Temperature guidelines

Proposed plan: All adults will be monitored for temperature every morning. No-touch thermometers will be available at multiple entrances. Student temperature checks will not be conducted routinely as this is no longer considered necessary preventive measure (low rates of fever, even among children with any symptoms). More importantly, it provides more opportunities for students to gather together without distancing (students who fail test would have to be sent to another station to be rechecked within 30 minutes) or proper face coverings (occurs before they enter the school) and would have required staggered school start times and pulling teachers into temperature-taking positions.

The CDC and the State CDPH guidelines recommend a temperature threshold of 100.4. But, the County of San Diego has a temperature threshold of 100.0. The lower temperature threshold is anticipated to cause more false positives as individuals enter schools.

7. Questions

- From a scientific perspective, 100.0 vs 100.4 as fever threshold? *100.4!*
- Does this differ for students versus adults? *No*
- Do the benefits of temperature screening of students (at entry to schools and to buses each morning) outweigh the complications of taking temperatures of all students? *No These may include: more staggered school start times, teachers having to staff entry ways and taught to take temperatures; and “secondary” lines of students to be re-tested after a marginally high readings? I think parents should take the child’s temperature and they would sign an agreement that they would do this everyday.*

Medical News

Type of reading	0–2 years	3–10 years	11–65 years	Over 65 years
Oral	95.9–99.5°F (35.5–37.5°C)	95.9–99.5°F (35.5–37.5°C)	97.6–99.6°F (36.4–37.6°C)	96.4–98.5°F (35.8–36.9°C)
Rectal	97.9–100.4°F (36.6–38°C)	97.9–100.4°F (36.6–38°C)	98.6–100.6°F (37.0–38.1°C)	97.1–99.2°F (36.2–37.3°C)
Armpit	94.5–99.1°F (34.7–37.3°C)	96.6–98.0°F (35.9–36.7°C)	95.3–98.4°F (35.2–36.9°C)	96.0–97.4°F (35.6–36.3°C)
Ear	97.5–100.4°F (36.4–38°C)	97.0–100.0°F (36.1–37.8°C)	96.6–99.7°F (35.9–37.6°C)	96.4–99.5°F (35.8–37.5°C)

- If so, does this differ for students at different levels (Elementary? Middle?High?); *no*
- What about for staff versus students? *Staff should also take their own temps.*

8. Quarantine versus School or Class Closure

There are various directions from different sources on when to allow a student or staff member back to school, after experiencing symptoms, and at what point other potential contacts are quarantined for 14 days. :

- CDC recommends that for schools, any test-positive case of COVID-19 is to be followed by quarantine or negative test by all others in the “cohort” (ie., class, or possibly bus): “If a student, teacher, or staff member tests positive for SARS-CoV-2, those in the same cohort/group should also be tested and remain at home until receiving a negative test result or quarantine”.
- CDC recommends quarantine in non-school circumstances based on 15+ minutes closer than 6 feet, regardless of any “cohort”

- (c) San Diego County is working on a Decision Tree for schools, regarding this (See Appendix 2)
- (d) Epidemiologists have defined a school outbreak as 2 lab-confirmed positive individuals in the same school cohort, whose first symptoms are within two weeks of one another (assuming these individuals have no other close contact outside of school).
- (c) CDPH: They propose individualizing closure on the circumstances in consultation with local health department, but say individual school closure may be appropriate when: (a) multiple cases in multiple cohorts or (b) at least 5% of total number of individuals are positive within a 14-day period, depending on size and physical layout of school. And closing an entire district if 25% or more of schools have closed, but in consultation with public health department.

See Appendix 2, below: A Draft "Decision Tree" developed with local county health department

See Appendix 3, Epidemiologist definition of a COVID outbreak in a school setting

8. Questions:

- a) Any input on how the San Diego Decision Tree should be (Appendix 2). No
- b) Adopt the CDPH guide for closing schools/classrooms? Yes

Steve Spector:

1. a. I agree with the CDPH criteria to open schools. This is a reasonable approach that will help improve safety for children and their teachers.
b. This is a much more nuanced question. Increasing data suggest that children <10 years are at lower risk for infection and less likely to transmit. Why this is remains unclear and more data may prove that this is incorrect. However, based on the available data, opening of lower grades may be acceptable prior to the widespread opening of all grades.
2. School buses would seem to be a high-risk for transmission. Busing should be discouraged and only children who are unable to be taken to school by another form of transportation should use buses. Guidelines presented seem reasonable. Windows should be kept open at all times.
 - a. Windows should be kept open whenever possible
 - b. Face shield with gator drape should be as effective as face coverings. 6 feet distance should be observed whenever possible.
 - c. Students without face covering of some kind should not be permitted on buses.
3. Have no expertise in this area
4. a. Yes – I think this is reasonable but less desirable b. Students should wear face coverings at all times when in class c. I think this is acceptable. There should be no sharing of food. d. Teachers' desks can be closer to students if there is a physical barrier and teacher is wearing a face covering. e. Yes f. This may work for children <10 years based on current data g. Should only allow the number of children in any restroom at one time that allows for social distancing. Likely no more than 2. Students should wear face coverings while in restrooms
- h. If school is going to resume face-to-face there are no other options. In the end, we will need to run the risk versus benefit.
5. a. Children should wear face coverings at all times b. Disinfecting playground should be performed between class uses when school is in session at end of day (although one can argue the end of day is less important than during day). c. Agree with CDC d. Probably not – but could find no information of quaternary ammonium disinfectants when left for long periods of time.
6. a. Would recommend face shield with drape first and face shield alone if drape not possible b. Agree c. Yes a face shield with drape should be as effective as a face mask
7. A and b Age and site make a difference c. I am not convinced that taking temperatures will be useful but above 100.4°F would be considered fever. Many people including children can have COVID-19 and not be febrile.
8. a. Schema is too cluttered – needs to be simplified. I found this very difficult to follow.
b. San Diego County is defining an outbreak as 3 lab-confirmed cases. Lowering the threshold to 2 can protect students and teachers, but may lead to increased school closures. It is very difficult to assess other contacts outside of school.

SDEA

Draft Questions for UCSD Panel

To protect our students, community, and all school staff, we must use science-based standards before physically reopening schools.

A. Opening/Closing Schools

Current in-person reopening criteria¹:

Schools and school districts may reopen for in-person instruction at any time if they are located in a local health jurisdiction (LHJ) that has not been on the county monitoring list within the prior 14 days.

If the LHJ has been on the monitoring list within the last 14 days, the school must conduct distance learning only, until their LHJ has been off the monitoring list for at least 14 days.

1. Do you agree that the California Department of Health (CDPH) criteria (see above) to open schools is sufficient to keep students, educators, and families safe or would you recommend supplemental criteria such as the following at the both the county and district levels: There is a fundamental question that the Committee never addressed: Should all school closures within SDUSD be based on COVID-19 cases within the entire County? Or can there be a more targeted approach based on student and staff zip codes at specific schools? Unfortunately, the more targeted approach would invariably result in minority communities and communities of color that have been hardest hit by the pandemic and whose children are already often struggling to stay at grade level to close and thus, further accentuate the education divide. On the other hand should schools where the pandemic is more under control be closed because the County as a whole is over the thresholds?

a. County Level:

i. Level of Virus Spread:

1. There must be less than 10 daily new cases per 100,00 people in each zip code in the county.
2. The positive test ratio must be 3% or less for each zip code in the county.
3. The R0 must be less than 1 in the county.

These recommendations are reasonable if SDUSD is to act as one.

ii. Testing:

1. Anyone must be able to get access to a free test regardless of symptoms and be able to make an appointment within 24 hours.
2. Patients must be notified of their test results in 24 hours.

iii. Contact Tracing: A critical component of this needs to be community education. People don't necessarily want to be tested. There is fear of stigma, fear of loss of work, fear of government checking immigration status, etc.

1. There must be 30 contact tracers per 100k or 5 tracers per every confirmed new case (whichever is higher).
2. 75% or higher percent of index cases give contacts.
3. Trace time must be 24 hours or less and the time from contact tracing program to test of contract must be 24 hours or less.
4. More than 90% of identified contacts must be traced, tested, and in quarantine, isolation, or active monitoring.

¹ https://docs.google.com/viewer?url=https%3A%2F%2Fwww.cdph.ca.gov%2FPrograms%2F-CID%2FDCDC%2F_CDPH%2520Document%2520Library%2FCOVID-19%2FSchools%2520Re-opening%2520Recommendations.pdf

b. District Level:

i. Testing:

1. If a member believes they have been exposed or have tested positive, all members and union leadership must be notified of possible exposure within 12 hours.
2. The district must coordinate testing with the county so if members request testing (even if asymptomatic) they are able to easily schedule appointments (within 24 hours). If members can not get a test, they should be on paid admin leave until one is available.

ii. Contact Tracing:

1. The district must coordinate with the county to establish district based contact tracers. Contact tracers should notify union leadership and members of possible exposure within 24 hours.
2. Any staff member who must quarantine (whether exposure happened on campus or not) will be given admin leave for 14 days + time for a negative test result.
3. If a staff member tests positive and becomes ill within the 14-day quarantine period, they must retest and attain a negative test before returning to any worksite.
2. What are the implications if cases in the surrounding counties are on the rise even if SD County cases are on the decline?
 - a. i.e. What level of importance should we place on conditions in Los Angeles and Imperial Counties? There is so much diversity within the SDUSD that adding COVID-19 data of surrounding counties will only increase the likelihood that schools will either not open, or open and close too frequently
3. What wastewater testing protocols can and should be considered for effective detection within school communities? I would not recommend waste water testing. There are too many variables to make decisions based on detection of SAR-CoV2 in waste water.
4. What pool testing protocols can and should be considered for effective detection within school communities? As above. This may be an interesting research tool, but would recommend going by positive tests within the community.
5. Which, if any, of the recommended protocols for mitigation/suppression, including social distancing and masks, be effective without a comprehensive testing and contact tracing program? Regardless of testing, wearing masks, social distancing and good hand washing are all useful and should be required.
6. Assuming the conditions for reopening are eventually met, under what conditions could protective safety measures such as masks and social distancing be relaxed? When more that 60-70% of the population has been infected and/or immunized with an effective vaccine (herd immunity). Potentially also when there is an effective oral medication that can be taken with the onset of symptoms that can prevent serious disease that is widely available and affordable.

B. Site Conditions

1. Current CDPH guidelines speak to the importance of ventilation. Should school sites without windows or with non-operable windows that do not also have central air filtration for HVAC systems (targeted filter rating of at least MERV 13) stay closed?
 1. What are the minimum hourly averaged ventilation rates to prevent viral spread?
 2. Is there a square footage per window/opening ratio that we should consider for ventilation of a room?
 3. What PPE at minimum should educators at each level wear when conducting onsite learning? Good hand-washing is a critical combination with any PPE
 - a. Elementary school teacher in one room (20-35 contacts)? *Mask and eye protection*
 - b. Secondary school teacher in one room (max of 72 contacts)? *Mask and eye protection*
 - c. Educators who share an office? *Educators should not be sharing offices whenever possible. If they must share offices, the desks should be at least 6 feet apart, educators should wear masks at all times and use hand sanitizer or wash hands whenever touching common areas.*
 - d. Ed. Specialists who have close contact with multiple students? *Minimum of mask and eye protection*
 - e. M/S Ed. Specialists who have contact with medically fragile students? *Minimum of mask and eye protection*
 - f. What precautions need to be taken by staff who come in very close contact with high needs students (diaper changing, feeding, med. procedures)? *Minimum of mask, eye protection and gloves*
 - g. School nurses? *Minimum of mask, eye protection and gloves*
 - h. School counselors who normally work in a confined (300 - 400 ft²) space and require privacy when counseling students? *Minimum of mask and eye protection*

- i. Itinerant educators who work at and travel to multiple sites? *Minimum of mask and eye protection*
 - j. Staff members supervising students with COVID-like symptoms while waiting to leave campus? *Minimum of mask, eye protection and gloves*
4. Based on surface area transmission, what procedures must be in place regarding student materials that are brought into a school and classroom such as backpacks, water bottles, food, etc?
 - a. Can books be safely shared between students? If so, what precautions should be taken? *Books should not be shared among students*
 5. CDPH July 17 guidelines on classroom space recommend 6 feet between desks. In sites where there is not enough space to meet the 6 feet recommendation do you recommend outdoor classrooms?
 - a. Should sites where outdoor space is limited and 6 feet distance between desks not practical remain closed? *Special accommodations could be made but would need to be specifically tailored to the space available including plexiglass partitions and PPE.*
 6. What are the risks of cohorting students who cannot social distance? *The risk would significantly increase for COVID-19 transmission among students and staff if an infected student were in the classroom.*
 7. What are the recommended screening procedures for when students and staff arrive? *I would recommend self-screening on a daily basis where students and/or their parent answer a screening questionnaire regarding the presence of any potential related COVID-19 symptoms. The screening could be through an app or a paper checklist that the student would bring to school daily.*
 8. What precautions should be taken during recess/lunch (outdoor play time/eating time)? *Maintenance of social distancing, wearing masks at all times except when eating and required handwashing/hand sanitizer at end of recess/lunch.*
 9. How often should classrooms and work spaces be cleaned and disinfected once schools re-open? *Daily*
 10. When are face shields an acceptable alternative to face masks? What additional risk do they pose? *Face shields are not equivalent to face masks. Aerosols can easily go over or under a face shield.*
 11. What additional procedures must be in place to protect against asymptomatic spread? *Here is where it will be important to educate students and parents about COVID-19 and the risk that someone can be asymptomatic and infected, and still transmit to others. This stresses that even if a student is well and his/her friends are well someone could still be infected and precautions need to be taken at all times.*
 12. Would reducing staff and student time on campus reduce transmission? *Decreased density is likely to reduce transmission but needs to be evaluated on a risk:benefit basis.*
 13. What adjustments/accommodations can we make for students who are exempt from wearing a mask, that would still allow for safe onsite learning?
 - a. For educators that are in close contact with students that cannot wear masks or that have behaviors such as spitting, what extra protections must be in place to keep staff and students safe? *This is going to be very difficult and may not be feasible. A minimum of mask and face shield or goggles would need to be worn the educator.*

C. Additional Questions

1. Educators may return to campuses in the fall to provide online learning. What are appropriate safety and disinfecting procedures for sites that will have adults but no students present throughout the day? *The precautions should be the same as when students are present on campus. Social distancing and masks at all times. No sharing food and utensils.*
2. What considerations and protective measures can and should be taken for educators who live with at-risk family members?
3. What recommendations would you make for students with chronic conditions, specifically asthma, anaphylaxis, diabetes, cardiac concerns, hypertension, kidney disease, and pulmonary concerns? *This is a risk:benefit. Children with these conditions will need to adhere to the same precautions as other students, but parent and student may decide that distant learning is best at this time.*

4. If a student tests positive for COVID, what additional procedures should be in place for their siblings and the classrooms and schools sites of those siblings? *All contacts will need to be tested and stay at home for 10 days after the exposure and retested to insure they are still negative.*

References:

CDE Stronger Together: <https://docs.google.com/viewer?url=https%3A%2F%2Fwww.cde.ca.gov%2Fis%2Fhe%2Fhn%2Fdocuments%2Fstrongertogether.pdf>

CDHP July 17 Guidelines: <https://docs.google.com/viewer?url=https%3A%2F%2Fwww.cdph.ca.gov%2FPrograms%2FCID%2FDCDC%2FCDPH%2520Document%2520Library%2FCOVID-19%2FSchools%2520Reopening%2520Recommendations.pdf>

<https://docs.google.com/viewer?url=https%3A%2F%2Ffiles.covid19.ca.gov%2Fpdf%2Fguidance-schools.pdf>

Harvard Global Health Metrics for Suppression:

https://globalepidemics.org/wp-content/uploads/2020/06/key_metrics_and_indicators_v4.pdf?referringSource=articleShare