Marin County: Leveraging Education and Public Health Partnerships to Support School Reopening

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Abstract
Since the COVID-19 pandemic emerged in March 2020, districts across the nation have faced the difficult task of reopening schools safely and keeping them open as community infection rates have risen and fallen. It is useful to learn from the efforts of counties and districts that have been able to reopen schools—and keep them open safely—using multifaceted mitigation strategies that greatly reduce the risk of in-school transmission. This brief describes reopening efforts in Marin County, which has reopened more than 85% of its schools since fall 2020, and documents the county planning process and mitigation strategies for personal protective equipment, ventilation, physical distancing, cohorting, symptom screening, and testing and tracing. It is part of an effort at the Learning Policy Institute to disseminate key public health research and reopening strategies to educators and policymakers.

Acknowledgments
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The COVID-19 Context in Marin County
California state COVID-19 policies have guided Marin County’s approach to reopening schools. In California, every county is assigned to one of four tiers (purple for widespread transmission, red for substantial, orange for moderate, and yellow for minimal) based on each county’s test positivity and case rates, with rates adjusted for a county’s testing volume. Tier status dictates which sectors (e.g., businesses, schools) must be closed in a county, and it establishes the conditions for reopening.
Background on Marin County

Marin County is a suburban county in Northern California, with a population of 259,000 residents and a median income of $126,373. The Marin County Office of Education (MCOE) oversees 18 school districts with a total enrollment of 39,654 students. There are 16 elementary school districts, two high school districts, and two unified school districts in the county. In 2019–20, 54.1% of students enrolled in districts across the county identified as White, 31.5% as Hispanic or Latino, 5.8% as two or more races, 4.6% as Asian, 1.7% as Black or African American, 0.6% as Filipino, 0.4% as American Indian or Alaska Native, and 0.2% as Native Hawaiian or Pacific Islander; 1% of students had no reported ethnicity. Across the county, 15.2% of students were English learners and 28.7% of students were eligible for free or reduced-price meals, although some districts within the county have greater proportions of students who are English learners or are from low-income families. For example, among the 4,600 students in the San Rafael Elementary School District, 46.6% are English learners, and 67.2% are socioeconomically disadvantaged.

The least restrictive yellow tier corresponds to positivity rates below 2%. The most restrictive purple tier corresponds to positivity rates exceeding 8%. Schools that were already open prior to a county’s shift to purple—as occurred in Marin—or prior to case rates exceeding 25 per 100,000 people are permitted to remain open. When schools in Marin County were first beginning to reopen in fall 2020, the state required school districts in purple-tier counties to receive an Elementary Education Waiver from their county public health offices before reopening elementary grades (transitional kindergarten through grade 6). Waivers did not allow districts in purple-tier counties to reopen upper grades.

In January 2021, the state released an updated guidance framework that replaced the Elementary Education Waiver, although waivers approved prior to January 14, 2021, remain valid. The new guidance continues to prohibit reopening for grades 7–12 in the purple tier, but it allows schools to reopen transitional kindergarten through grade 6 if county case rates are below 25 per 100,000 people and if districts complete and post a COVID-19 Safety Plan. Districts must post their plans on their home pages and submit them to their local health officers and the State Safe Schools for All team. Local health departments and/or the state team have 7 business days from the time of submission to provide feedback and identify plan deficiencies. If they do not provide feedback within 7 days, schools can reopen on the eighth business day (Table 1).

Like many other school districts throughout California, schools in Marin County closed during the state’s first wave of COVID-19 cases in spring 2020. Based on the recommendation of the county’s public health officer, districts suspended in-school instruction for a minimum of 2 weeks beginning March 16, 2020. With the exception of special education and alternative education programs (described below), and summer learning programs run through one district (Sausalito Marin City School District) in the county, schools remained closed to in-person instruction until September 8, 2020, when Marin County Public Health approved waiver applications that would allow schools to reopen campuses for in-person instruction. The county approved 15 elementary schools, clearing them to reopen campuses. At that time, COVID-19 case and positivity rates in the county were declining, although the county remained in the purple tier. Marin County moved from the purple tier to the red tier on September 15 and from the red tier to the orange tier on October 27. More schools reopened without waivers as the county shifted to less restrictive tiers.
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- COVID-19 Safety Plan posted publicly for k–12 grades 5 days prior to in-person instruction

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- Must be in red tier 5 days prior to reopening

- Already reopened:
  - COVID-19 Safety Plan posted publicly

- Not previously open:
  - COVID-19 Safety Plan posted publicly for k–6 and submitted concurrently to local health department and the State Safe Schools for All team
  - Seven business days for review
  - Grades 7–12 reopening not permitted if adjusted cases > 7.0
  - Grades k–6 reopening not permitted if adjusted cases > 25.0, though COVID-19 Safety Plan can be posted and submitted for review
  - Note: Targeted in-person instruction may be offered pursuant to the Cohorting Guidance for specialized services

Notes: Adjusted case rates are the 7-day average of daily COVID-19 cases per 100,000 people, calculated with a 7-day lag and adjusted for the number of tests performed. Positivity rates are the 7-day average of all COVID-19 tests performed that are positive.


In November 2020, California began undergoing a third COVID-19 wave. Although Marin was one of the last counties in the state to do so, on December 8, the county shifted back to the purple tier due to widespread transmission of the virus. During this period, schools in Marin County remained open, though some, such as Larkspur-Corte Madera School District, closed for a brief period following the Thanksgiving holiday to allow time for COVID-19 testing and for symptoms to emerge in individuals who may have contracted the virus during the break. (See “Implementing Mitigation Strategies in Larkspur-Corte Madera School District.”)
As of January 28, 2021, Marin County remained in the purple tier and had a reported positive test rate of 4.4% and an adjusted case rate of 16.8 per 100,000 residents. Despite widespread transmission, as of January 29, MCOE reported that 55% of the county’s 39,654 students were enrolled in site-based classroom instruction. In addition, Marin County Public Health and MCOE reported that 87% of schools (100 schools) in the county were conducting in-person instruction and that between September 8, 2020, and January 29, 2021, a cumulative total of 151 students and 38 staff tested positive for COVID-19, with only nine cases identified as suspected in-school transmission over the course of 91 in-person school days. For the nine suspected in-school transmissions, four cases were student to student, three were staff to staff, and two were staff to student; there were no suspected cases of transmission from student to staff. None of these cases required hospitalization. (See Figure 1.)

**Figure 1**

Marin County Schools In-Person Learning Estimates

Source: Marin County Office of Education.
Preparing to Reopen: Learning in Stages

As soon as schools closed in March 2020, MCOE and Marin County Public Health officials began developing reopening plans. MCOE established its Rethinking Schools Task Force to create a centralized group of county office staff who would focus on developing reopening strategies. The task force committed early on to basing its work in science and identified key partners, including Marin County Public Health. This partnership between education and public health offices involved intensive collaboration, with the county superintendent of schools and the public health officer engaging in near daily communication.

On March 13, 2020—the same day that the public health officer recommended suspending classroom instruction—Marin County Public Health issued a Public Health Advisory that provided guidance for operating emergency pop-up child care for frontline healthcare workers, with locations established at school sites and community centers that were near the county’s three major hospitals. Initially, the county started small with 11 children spread out across three child care centers; this soon grew to six pop-up centers, with one to three cohorts each and no more than 12 children per cohort at each site.

In “Come Back California”—a website established by the California Collaborative for Excellence in Education to provide resources on school reopening—the Collaborative describes the reopening process in Marin County. From March through June 30, pop-up child care centers served 3,424 student days. Over this time period, two siblings attending child care at different sites tested positive. MCOE worked collaboratively with Marin County Public Health to shut down the cohorts and engage in contact tracing, which allowed public health officials to identify a third, potentially unrelated case.

Using lessons learned from the implementation of pop-up child care centers, the task force developed plans for delivering in-person instruction safely that included the use of mitigation strategies, such as physical distancing and small student cohorts. MCOE used these plans to implement in-person learning for a subset of students through special education and alternative education spring pilot programs, which allowed the county to further refine its reopening strategy, while also providing safe in-person learning to small cohorts of some of the county’s most vulnerable students.

This iterative process of developing, implementing, and refining reopening plans informed the creation of template documents for exposure protocols, communication, and decision trees, which were developed to help district and school staff respond to a range of potential scenarios that could arise during in-person learning. For example, protocols were developed for responding to in-school exposures to COVID-19, deciding when to close a cohort to in-person learning, structuring classroom space to maximize physical distancing, and using personal protective equipment (PPE). Based on the success of the spring pilot, MCOE developed summer in-person special education and alternative education programs, which allowed MCOE to deliver in-person, extended learning opportunities to vulnerable students.

Lessons learned from implementation of pop-up child care sites and spring pilot programs also informed the development of the Marin County School Guidelines, a 30-point plan that was co-developed by MCOE and Marin County Public Health and released in June 2020. This document lists key strategies each school site should implement in order to reopen safely. These mitigation strategies include using face coverings, implementing physical distancing, encouraging frequent handwashing, restricting large gatherings, providing PPE and training...
to educators, and testing and quarantine measures. The guidelines also specify that elementary schools should maintain stable classroom cohorts, which may be up to standard class size for each grade level, but must prevent mixing of cohorts. For middle schools and high schools, cohorts may consist of more than one classroom but must avoid schoolwide mixing of students and staff. (See “Implementing Mitigation Strategies in Larkspur-Corte Madera School District” for a description of how these recommendations have been implemented at the district level.)

Engaging and Supporting Reopening in Districts

The Marin County School Guidelines serve as the starting point for districts planning to reopen. This document provides the framework for the School Site Specific Protection Plan (SSSPP) that schools or districts must develop and submit to Marin County Public Health for review. To protect the safety of the school community, the SSSPP is built around an assumption that each student or staff member may be an asymptomatic carrier.

To support implementation of SSSPPs, MCOE and Marin County Public Health have established staffing structures, communication strategies, and training opportunities for school and district staff as well as parents. For example, the county requires that each school site designate two public health liaisons who act as points of contact with Marin County Public Health. These liaisons receive training that builds their capacity to respond to concerns, support mitigation efforts, and deal with potential exposures at their school sites. In addition, weekly Zoom meetings create a space for public health liaisons, Marin County Public Health staff, and the Rethinking Schools Task Force to discuss and review challenges and successes, share best practices, and identify the need for potential changes to protocols. To make school reopening and COVID-19 transmission data transparent and easily accessible, MCOE and Marin County Public Health collaboratively maintain a dashboard that displays in-school transmission metrics, the number of schools operating in-person or remotely, and the number of students and staff who have tested positive. MCOE also created the “Rethinking Schools” website to serve as a platform for sharing documents, protocols, and trainings with schools and districts.

MCOE and Marin County Public Health also sought to remedy concerns that school community members might have about returning to in-person instruction by seeking and incorporating input from administrators, teachers, parents, and labor unions during the development of the Marin County School Guidelines. MCOE has helped schools and districts establish school site walk-through activities, which are designed to help community members—including staff, students, and parents—gain familiarity with the implementation of health and safety measures. In addition to leveraging these supports, some districts have developed agreements with their teachers unions through memoranda of understanding (MOUs) that address teacher health and safety in the context of reopening plans. (See “Implementing Mitigation Strategies in Larkspur-Corte Madera School District.”)

In addition, Marin County Public Health assembled a team of nurses to provide 24/7 support to schools during instances of potential COVID-19 exposures. School administrators and public health liaisons have a direct line to this team, which initiates the process of contact tracing for COVID-19 positive cases and guides school staff on procedures related to potential exposures, including quarantining and deciding when to close a cohort.
MCOE credits Marin’s successful reopening to several factors: intensive collaboration with schools, communities, educators, and public health; a mission-driven focus on getting students back to school safely using a continuous improvement approach; and districts’ desire for strong, science-based public health guidance to inform their decisions and implementation. Marin County offers lessons in how schools can be safely reopened with well-funded, carefully designed, and rigorously implemented mitigation measures in place.

Implementing Mitigation Strategies in Larkspur-Corte Madera School District

Among the school districts in Marin County that began reopening in fall 2020, the Larkspur-Corte Madera School District (LCMSD) was the first to bring the majority of its staff and students back and the first to fully reopen for in-person learning, with 85% of students returning to campus for instruction. Schools serving students in transitional kindergarten through 8th grade reopened on October 5, 2020, when Marin County was in the red tier, and have remained continuously open with the exception of a 1-week closure in November following the Thanksgiving holiday break. The district follows Marin County Public Health’s reopening scenarios, which are based on levels of exposure to positive cases. Although the district initially used a reduced in-person schedule to help students acclimate to new health and safety procedures, on October 12, LCMSD began offering partial-day in-person instruction to students 5 days per week.

LCMSD is a k–8 suburban school district, with a population in 2020 of 1,533 students enrolled across two elementary schools, each serving 400–600 students in transitional kindergarten through 5th grade, and one middle school serving 500 students in grades 6–8. The district has a median household income of over $131,000. In 2019–20, 71.2% of the student population identified as White, 12.9% as Hispanic or Latino, 8.8% as two or more races, 5.7% as Asian, 0.5% as Black or African American, 0.4% as Filipino, 0.2% as American Indian or Alaska Native, and 0.2% as Native Hawaiian or Pacific Islander; 0.2% had no reported ethnicity.

Rules for Moving Between School Closure and Reopening

Prior to reopening, LCMSD developed a phase-in plan and shared this with families and staff. Based on the state’s tier system, the plan dictates when schools will deliver instruction remotely through distance learning, reopen using hybrid instruction, or reopen 5 days per week using a half-day instructional cohort model. The plan specifies that hybrid learning is intended to serve as a temporary, transitional phase between the remote and in-person instructional models.

Attendance Policy

Families chose over the summer which instructional models they preferred: on-site, hybrid, or distance learning. Parents were asked to commit to a learning plan for the entirety of the fall semester, with the option to change their preferences after the semester concluded. Information on the return-to-school cohorting schedules, distance learning schedules, and health and safety measures were provided to families to inform their decisions. The district website makes information available in more than 24 languages, with a drop-down translation menu on the home page. Eighty-five percent of families chose in-person learning for the fall semester; this increased to 87% for the spring semester.
Cohorts and Scheduling

LCMSD follows Marin County guidance on cohorting with an assigned primary teacher in elementary schools. Additionally, LCMSD adapts schedules accordingly to prevent mixing of cohorts (e.g., during entry and exit and transitions). Classes are split to form two cohorts with approximately 10–15 students. Cohorts are either on campus in the morning (AM cohorts) or afternoon (PM cohorts), with AM cohorts on campus from 8:10 a.m. to 11:00 a.m. and PM cohorts on campus from 12:30 p.m. to 3:20 p.m. Students are also expected to complete at least 70 minutes (reduced to 10 minutes for transitional kindergarten and kindergarten) of daily distance learning assignments in addition to their in-person learning.

At all grade levels, students remain in the same classroom throughout the day. At the elementary level, teachers stay with their cohorts all day. At the middle school level, teachers are provided with carts and materials to rotate between classrooms, and there are three periods in each day (instead of the typical five), for a total of five in-person classes that meet three times per week. The other two classes are held virtually. To facilitate this cohorting strategy in the middle school, LCMSD limited students to taking a common elective.

To support the social-emotional needs of students and ease their return to school, the district used surveys in which students identified up to five friends for cohorting purposes. The district used this information to strategically organize their classroom cohorts so that students could learn alongside familiar peers. In addition, the district worked to ensure that students in shared child care settings outside of school would remain together in their school cohorts as much as possible.

Symptom Screening and Quarantine Procedures

LCMSD requires all families to submit a daily symptom screening form via a quick response (QR) code, which allows students and staff to scan and fill out the screening form using a computing device (e.g., a smartphone). The screening form assesses students for a broad range of symptoms, including fever, chills, cough, shortness of breath, fatigue, body aches, headaches, loss of taste or smell, sore throat, stuffy or runny nose, nausea or vomiting, and diarrhea. At the beginning of each class, teachers scan the screening data that families have submitted to ensure that each student has been screened. For students who have not been screened, teachers fill out a screening questionnaire immediately and check the student’s temperature. Parents complete at-home screening at a high rate (estimated to be 95%–98% by the district superintendent).

Individuals with a temperature of 100.4 degrees or above (as reported by parents or upon screening at schools) are not allowed inside the school building. Students who have been identified as symptomatic are relocated to isolation tents.

Students and staff who test positive are required to self-isolate for at least 10 days before returning to school.
Testing

LCMSD’s testing strategy includes monthly screening tests of all school staff; the district’s MOU with the local teachers union specifies that free COVID-19 tests will be offered to all bargaining unit members. Testing is covered through teachers’ insurance plans. Since November, LCMSD has used Curative (a testing company) and provides testing on a designated day each month during breaks between AM and PM cohorts. Staff can make additional testing drive-through appointments through United Health, with a different Kaiser Permanente portal used for employees classified as essential workers. The tests are optional; however, if staff are unable to make their appointments, the district advises them to obtain community testing within 7 days and to submit their results to the district superintendent. Using this strategy, the district has been able to ensure that 98%–100% of its staff undergo monthly testing, with most staff participating in the district’s testing events.

Marin County provides a list of locations for COVID-19 testing for families, and there is a dedicated testing site for those unable to work through a medical provider, as well as at-home testing kits provided by the county. Students and staff may return to school after developing symptoms or receiving a positive test result if they have completed 10 days of self-isolation. Individuals with symptoms may also return to school if they have received an alternative diagnosis from a physician. Students or staff who may have been exposed may return 7 days following exposure if they receive a negative result from a test taken 5 days after the exposure. Before returning to school, individuals must also be symptom-free for at least 24 hours, provide proof of a negative test result, or provide written proof from a medical provider that they can return to school.

To minimize longer-term disruptions to in-person instruction resulting from out-of-school exposures during the Thanksgiving holiday break, LCMSD implemented a “Thanksgiving re-entry plan.” Schools remained closed during the week after Thanksgiving, and families were asked to begin quarantining on the Friday after Thanksgiving. On the following Friday, students were offered access to free testing at local parks. The district was prepared to test 2,000 individuals, using parents who volunteered to help distribute the tests and proctor self-administration.

To prepare for students’ return to schools on January 4, 2021, following the December holiday break, LCMSD also notified families that testing would be offered 5 days per week beginning on December 21, 2020. Before returning to school, the district asked families that did not follow the state’s December 3 Stay At Home Order to quarantine for 10 days; alternatively, families could return after 7 days if they had negative results from tests taken 5 days following engagement in potentially risky activities. Students who could not return to school immediately due to quarantine or while waiting for test results engaged in remote learning via livestreamed classes.

Samples for tests (developed by Curative) are acquired through minimally invasive, self-administered oral cheek swabs. The samples are used to run a molecular test that detects the presence of viral genetic material, with results becoming available in 24–48 hours.
**Tracing**

Student cohorting facilitates each school’s ability to maintain daily logs that track students and their interactions. To track staff, the district designates unique QR codes for every cohort as well as QR codes for every door and workspace at each school site. When staff move around the school site (e.g., to make copies or to enter different workspaces), they scan the QR code before they enter a room so that administration can trace where staff have been. When positive cases have been identified, school site public health liaisons can reach out to a team of nurses at Marin County Public Health to receive support with contact tracing.

**Ventilation**

LCMSD has installed MERV 13 filters in its HVAC systems, which run continuously from 6:00 a.m. to 6:00 p.m. and have been adjusted for 60% outdoor air intake. They are replaced on a quarterly basis.

**Physical Distancing**

To minimize close interaction among adults, a minimum of 6 feet of physical distance between individuals is required. Staff break rooms are closed, and all spaces are marked with signs indicating maximum capacity.

To facilitate distancing among students, classrooms are arranged so that desks are facing forward whenever possible. Schools also use signage to establish one-way hallways and markings that facilitate 6 feet of distance within school buildings.

Each of the three schools in LCMSD has uploaded its entry and exit plans—which are designed to maximize distancing and mediate traffic flow—to the district COVID-19 website.

**Sanitation**

Scheduled cleanings, including during AM–PM cohort transitions, occur daily through designated custodial staff. The county created a checklist for all districts to use when cleaning classrooms and playground equipment.

**Hygiene and Mask Use**

Due to the AM–PM cohort scheduling, students do not eat lunch on campus. Students are required to bring their own water bottles and are allowed to drink outdoors during scheduled water breaks.

To help districts plan for adequate purchasing of PPE, Marin County provided a procurement calculator. LCMSD provides hand sanitizer in each classroom and requires all staff and students to wear masks. The district established outdoor handwashing stations and distributed hand sanitizer, 55 masks (cloth and disposable), 15 face shields, and 1 thermometer to each teacher; 50 masks for classrooms; and gloves and plexiglass shields. Additionally, gloves, gowns, and Tyvek suits are available upon request.

**Bandanas and gaiters** cannot be used as masks. For staff and students who cannot wear a mask because of health or disability conditions, face shields with neck drapes tucked into the shirt are required.
Transportation

Bus routes have been canceled; students are encouraged to ride bikes and walk to school. Given that the cities of Larkspur and Corte Madera are relatively small—about 3 square miles each—such a policy may be more feasible in LCMSD than elsewhere.

Recreation and Extracurriculars

All sports have been canceled, and physical education takes place virtually. Band and choir are offered as electives for students to take virtually.

Educator Health and Safety

LCMSD signed an MOU with the local teachers union that details conditions for a safe return to campus. The MOU includes schedules for teaching AM and PM cohorts and remote teaching and learning, as well as protocols for cleaning, contact tracing, and testing.

Vaccinations

Based on criteria developed by the CDC’s Advisory Committee on Immunization Practices and the California Department of Public Health, Marin County Public Health will vaccinate individuals in phases, with the highest-risk groups, such as frontline health care workers and persons living in residential nursing facilities, receiving vaccines first. On January 17, 2021, Marin County became one of the first counties in the state to begin vaccinating education workers, with 1,248 custodians, food services personnel, bus drivers, and special education teachers and aides receiving vaccinations. However, the California Department of Public Health has since shifted toward using the state’s limited supply of doses to vaccinate the elderly population. State policy specifies that teachers are to receive priority after health care workers and older individuals have been vaccinated. In the meantime, the county and district will continue to implement multilayered mitigation strategies to reduce transmission and protect the health and safety of students and staff.