



**PANDEMIC PREPAREDNESS AND
PLANNING REPORT FOR LOVELAND HIGH
SCHOOL**

August 14, 2020

Location:

Loveland High School
1 Tiger Trail
Loveland, OH 45140

Submitted to:

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PROJECT NO. 0019763A.00

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EXECUTIVE SUMMARY

LJB has provided this summary of recommendations as an overview of considerations and/or action items under each category. It is provided as a tool and should not be used exclusively without a clear understanding of the supplemental discussion information provided in detail in this report.

DAILY ASSESSMENT OF SYMPTOMS

Student Recommendations

- Establish clear guidance that any illness precludes a student from attending school
- Eliminate any barriers to the stay home policy, such as requirement of a physician signature
- Provide parents/guardians with instructional document on temperature and symptomatic screening
- Require parental/guardian signature for acknowledgement of document and potential consequences of non-compliance

Staff Recommendations

- Identify a means of accountability in completing the screening form on the application

ARRIVAL AND DISMISSAL

Parent/Guardian/Student Transport Recommendations

- Control entry to prevent bottlenecking at doors
- Schedule staggered drop off/dismissal times
- Separate breakfast population from early arrivals

FOOD SERVICE

Breakfast and Lunch Recommendations

- Face coverings must be worn when standing or walking
- Floor markings placed at 6-foot intervals to designate the line for food
- Arrange tables according to the provided layout drawing
- Mark seat positions on benches and chair positions on the floor in the cafeteria to provide 6-foot social distancing and offset students on opposite sides of the table (students facing each other will be 6 feet apart on a diagonal line)
- Position tables so that there is a 3-foot clear distance between back-facing chairs (students backs will be a minimum of 3 feet away from each other)
- Students must fill the seats farthest from the serving line first
- Face coverings must be worn until the student is seated and ready to eat
- Place trash cans opposite of the serving line or near the exit to direct students away from other students who arrived later and may still be seated

CLEANING

Recommendations

- Maintain bathroom cleaning and disinfection to pre-COVID-19 frequency
- Use cleaning products only within manufacturer's guidelines

CLINIC VISITS

Dispense Medication/Nurse Visits

- Teachers should call nurse prior to sending the student to the clinic



MAIN OFFICE VISITS AND COMMUNICATIONS

Recommendations

- Ensure that any writing utensils are sanitized after use
- Establish a schedule to routinely clean and sanitize surfaces (nightly)

VISITORS

Recommendations

- Provide face coverings in the lobby for any visitors that arrives without one
- Provide hand sanitizer in the lobby
- Require visitors to certify they have had no exposure to COVID-19 prior to entry
- Require visitors to stay masked while at the school
- Establish an area/chair for a visitor who may not be able to wear a mask

RESTROOM USE

Recommendations

- Ensure each bathroom has paper towels which should be used to turn the faucets off
- Remind students and staff to wash their hands with soap and water for 20 seconds
- Place trash cans near the exit to facilitate disposing paper towel upon exit and prevent crowding in other areas of the restroom

USE OF LOCKERS/HALLWAYS

Recommendations

- Face covering must always be worn when traveling in the hallways
- Eliminate the use of backpacks or reduce the size requirement of them
- Follow all directional signs and maintain 6-foot distancing
- No loitering or grouping

CLASSROOMS – GENERAL

Recommendations

- All surfaces and tables must be cleaned between use
- Keep use of community supplies to a minimum and ensure cleaning/sanitizing after each use
- Students will be required to use sanitizer before entering and exiting the classroom, before and use of shared materials, before and after specials classes, before and after restroom, and before and after breakfast/lunch

CLASSROOMS – SEATING AND GROUPING

Recommendations

- Face coverings must be worn while in the classroom
- Shared items need to be cleaned before and after each use or change of student grouping
- Avoid use of items that are hard to clean or have a fabric cover
- Ensure desks are spaced as identified on the classroom drawing (general, science, computer)

SPECIALS CLASSES

Recommendations

- Shared equipment must be sanitized between uses
- Form buddy groups or sub-groupings
- Art – Maintain distancing or design/use barriers
- Band and Choir – Any music activities which generate expressing “pursed” or forcefully expressed air should be eliminated unless 13 feet of distance can be maintained



- Gym – Ensure distancing is maintained, especially in the locker rooms
- Gym – Cool down period before going to locker room
- Gym – 13-foot distance is the preferred due to likelihood of non-compliance with the face covering wear
- Gym – Use clean hand towels and do no share
- Gym – Enhanced cleaning/disinfecting schedule for locker room surfaces and shared equipment
- Gym – Horseplay prohibited in locker room. May require additional supervision measures

SPECIAL EDUCATION INSTRUCTION

Recommendations

- Immediate cleaning following the use of any station or shared item
- Avoid use of netting and fabrics that are not easily disinfected
- Rotate spaces to ensure contact cleaners have sufficient time to disinfect
- Staff may need to wear face shields to avoid sneezing, coughing, etc.
- Parent/Guardian acknowledgement of increased risk

READING INTERVENTION AND SPEECH/LANGUAGE INSTRUCTION

Recommendations

- The teacher will use a face covering with a clear cutout OR a face shield and face covering
- Students and teachers can be temporarily unmasked to model and observe sound forming techniques, but not both at the same time

CLUSTER IDENTIFICATION

Recommendations

- Establish clear, concise procedures for cluster identification and investigation
- Establish a contact at the health department
- Ensure procedures meet local and state requirements
- Train responsible persons

MISAPPLICATION OF CONTROLS AND CORRECTING IMPROPER BEHAVIORS

Recommendations

- Empower appropriate correction of behaviors
- Review and evaluate adherence to procedures
- Use the evaluation tool to engage student and staff collaboratively



INTRODUCTION

INTRODUCTION

LJB visited Loveland High School as part of an awarded contract to provide pandemic planning services to the Loveland City School District. This visit is the second of six that will be conducted over the course of the next three weeks to evaluate existing re-opening plans, facilities, and safety and health protocols. LJB will provide recommendations to reduce risk and ensure a safe and healthy educational environment for all.

DELIVERABLES

This report serves as a narrative describing the overall processes of the daily educational experience, concentrating on movements of students, staff and visitors, in addition to the use of available/recommended protective measures in a COVID-19 pandemic environment. The evaluation of each process considered variables to include:

- Description of procedures and defining controls
- Flow and movement considerations
- Monitoring and correcting misuse of controls or improper behaviors

This report provides overall evaluation and recommendations, which will allow Loveland City Schools to provide an environment that is protective of students and keeps infection transmission as low as possible during waxing and waning infection rates in the community, when there is a suspect positive COVID-19 case, and when providing in-school educational activities. Recommendations also account for the need to identify if a cluster of illnesses are from failures in the school's control layers or not. We are providing a 1-page behavior tool/resource that can be used to reflect on performance.

Lastly, posters are provided for each area/room type requiring a set of controls and procedures. These procedures/guides will assist the teachers, staff, and administration authorities to know the requirements for each room or area. The District Nurse is finalizing local tracing procedures to meet state requirements for all LCS schools. LJB can modify or adapt the information on posters/graphic aids and cluster concepts through the end of this contract, if they conflict with state-directed tracing expectations. We do not expect this will be the case, but this will also ensure we do not provide alternative solutions that appear contradictory.

APPROACH

The first draft report was presented to the staff on July 31, 2020 (Loveland Elementary School). After that meeting, the schedule originally established for the remainder of the schools was modified to facilitate a rapid data collection to determine class loading at the other facilities. Onsite visits were scheduled daily for the week of August 3. This was done to assist LCS in understanding the relative class loading, which could be obtained with 6-foot spacing in all classrooms. The report will be provided after interviews of key personnel and analysis of detailed operations at the facility. Once the recommendations are drafted, they will be presented as specific controls to meet prevention needs. If untenable, alternatives will be discussed and modified, controls may be modified and/or education style, and/or expectation may need to be modified. An update section is provided to capture discussion topics of recommendations and include final disposition.

APPLICATION

Each report is specific to each school. Evaluations, considerations, and recommendations are made both individually by task and cumulatively as a complete day. In addition, each facility has different attributes, populations and needs and therefore, must be detailed and considered as a separate entity.



PROCESSES AND AREAS EVALUATED

Loveland High School (LHS) is the home of ninth through twelfth grade classes and has a population over 1500 students and staff members. LJB's site visit at LHS took place on Monday and Tuesday, August 3-4, 2020, from 7 a.m. until approximately 5 p.m. The information gathered is compiled in this section of report as follows:

- Areas/tasks that define the current state, according to the Reopening In Person Template for LHS.
- Discussion of the topics with supporting information and material references regarding that topic
- Summary of recommendations and actions the District should consider implementing
 - These recommendations provide the highest level of safety and lowest level of risk attainable while still achieving the desire for in-person classes.

DAILY ASSESSMENT OF SYMPTOMS

Current State

The District has purchased an application that will be provided to student and staff members. The application will be used daily to document and track screening protocols.

Discussion

Temperature screenings will not identify all students or staff that have COVID-19 due to the significant numbers of asymptomatic individuals or from the long incubation period, which can be up to 14 days. While temperature checks are a single control layer in a series of controls, it should not be allowed to provide a false sense of security. All individuals should be treated by others as being potentially infectious with COVID-19 and all individuals should treat themselves as if they could have COVID-19 and infect others. Because many other common illnesses such as influenza and the common cold have symptoms which overlap with COVID-19 symptoms, clear guidance to staff, students, and parents/guardians that any illness should preclude the individual from coming to school should be established, communicated, and adhered to rigorously. Barriers to the stay home policy, such as requiring a physician signature, preventing the completion of missed work, lack of vacation days, etc. should be eliminated, thereby allowing maximum adherence to isolate at home if symptoms fall within the established parameters.

Although protocols for screening of COVID-19 symptoms have become commonplace, the District should not assume that all parents/guardians and children know the reason for this screening or the potential risk COVID-19 places on others, especially high-risk individuals/family members. The parents/guardians may not regularly follow-through with performing these checks daily. Procedures and controls enacted throughout the school day are designed to account for asymptomatic cases, which are still infectious. There should not be an appreciable increase of risk of transmission for a student that could have been screened and kept from school. If a student appears ill or develops symptoms, they should be identified, isolated from others, and supported in getting appropriate health care.

Recommendations

Parents/Guardians and staff should be provided instructions on proper temperature and common symptom screening. Each household should sign a form certifying that they understand the protocols and potential consequences to others by not being compliant.

Identify a means of accountability in completing the information contained in the application. Some degree of consequence should be identified, communicated, and enforced to ensure daily completion.

ARRIVAL AND DISMISSAL

Current State

Bus Transport

Transportation services will not be provided for the high school student population.

Parent/Guardian/Student Transport

All students will arrive through Doors 1, 3, 8, or 12. Students arriving before 7:15 a.m. for breakfast (approximately 200) or for another reason, will go to the cafeteria. Students arriving after 7:15 a.m. may proceed directly to their classroom.

There were no specific procedures identified for dismissal in the Reopening Plan.

Discussion

Parent/Guardian/Student Transport

Due to the suspension of transportation services, an increased amount of vehicular traffic should be anticipated and accounted for. Student arrival times will vary significantly, and the effect must be considered in both foot traffic in hallways and bottlenecks at specific entryways.

Dismissal may cause increased risk if not performed systematically. LJB sees this as an increased risk in hallways, entryways, and congregating in the parking areas.

Recommendations

Parent/Guardian/Student Transport

The expected increase in student drop off and student drivers/riders will require oversight to make sure that students are not grouping, converging, and gathering and not maintaining 6-foot distancing. Staggering arrival time by last name or classroom assignment might be an option to investigate.

Consider the cafeteria as the staging area for students who arrive early but will not be eating breakfast. Since there is ample room for breakfast population in the gym, that should be the area where the breakfast crowd is staged.

For departure, a staggered release schedule is recommended.

Staff should closely monitor their respective classroom areas until hallways are clear. They can remind students to use hand sanitizer, not loiter and keep their face coverings on in the hallways.

FOOD SERVICE

Current State

Breakfast

LHS plans to serve breakfast to students in the cafeteria. Approximately 200 students will be served in the morning.

Lunch

LHS plans to serve lunches to students in the cafeteria and the gymnasium. Approximately 300 students will be served.

Discussion

When consuming food or drink, the salivary glands become more active and the likelihood of ejecting saliva from the mouth is increased. With eating also making it necessary to have a face covering removed, there is increased risks to transmitting COVID-19 if 6-foot distancing or a barrier cannot be maintained. It is important to ensure distancing is maintained while eating in either the cafeteria or the

gymnasium. LJB has calculated the load capability in the main gymnasium. The first cafeteria option is with 31, 12-foot hinged tables and 24 round tables, which provide a seating capacity of 94 students. The round tables, since they are 5 feet in diameter, can only safely sit one person per table. If the round tables can be replaced with standard 6-foot tables (option two), the seating capacity can increase to 130 students.

The bleachers will be pulled out in the main gymnasium. A maximum amount of 207 students can use the main gym bleachers for lunch/eating purposes. This number is based on seating three students in each 25-foot section at a spacing of 10 feet apart starting with the very first seat. For example, the seats would be at the 0, 10 and 20-foot marks. The next row up will have staggered seats at the 5, 15 and 25-foot marks. The next row repeats the pattern of the first row, and so on. This will permit students to maintain a minimum of six-foot distancing between each other plus a small amount of buffer. This estimate assumes that the bleachers have 3 sections of 25-foot runs (for a total length of 75 feet of seating), separated by 4-foot aisles. A very specific traffic flow pattern will need to be adhered to safely fill these seats from the top to the bottom.

Recommendations

Breakfast and Lunch

Food service can safely serve food to the students in the cafeteria substantially similarly to procedures before COVID-19. Cafeteria procedures to fill trays are designed to prevent the transmission of disease. Food service staff should wear face coverings along with the normally required hair nets and gloves. Adjustments that need to be made involve the arrangements of tables, designated seating positions, the loading sequence for the tables and specific mask donning and doffing times. Tables can be arranged in such a way that accommodates appropriate social distancing to keep students safe while removing face coverings to eat.

We have provided drawings that demonstrate how the tables can be set up to ensure that social distancing is maintained while the students eat. The tables at LHS are long, hinged tables that require chairs. The arrangement can have the chairs at least three feet from the nearest chair behind it. Seat positions on the benches will be marked to provide space between students and students on each side of the table will be offset from each other. In this manner students facing generally in the same direction will be 6 feet apart on a diagonal line and student's backs will be 3 feet apart from each other. Seating positions must be marked on each bench in the gym and on the floor in the cafeteria. Whenever standing or walking, face coverings must be worn. Floor markers should be placed at 6-foot intervals to designate the lineup to get food and face coverings must be worn until the student reaches the table. Once seated and ready to eat, face covers can be removed and tucked away. Students should fill the seats farthest from the serving line and in sequence, which will reduce the number of masked individuals walking past unmasked individuals. Upon completing their meal, students should don their face covering, return their trays, and/or dispose of trash and proceed to their next assigned area. Trash cans should be placed to direct the students away from other students who arrived later than they and who will likely still be eating.

CLEANING

Current State

The school currently has a supply of the following cleaning products for specific uses identified as follows.

1. SSS 256 – Used to wash floors on an as needed basis.
2. Clorox 360 – Intended to be used only if positive COVID-19 case or cluster of illness cases.



3. Force of Nature – Is available in each class and will be used for general cleaning and first aid incident clean ups.

LHS planned to have custodians assigned to clean every restroom during every period.

Discussion

1. SSS 256 – Floors are washed as needed with this product.
2. Clorox 360 – Surfaces should be used according to manufacturer’s directions.
3. Force of Nature – An ampule of salt and vinegar is placed in a bottle of tap water and must sit for 6 minutes before use. Must adequately wet surface to be cleaned and allow product to sit (contact time) for 10 minutes before wiping. Mixture is good for up to 2 weeks.

Recommendations

All products are adequate for their intended purposes. Maintaining bathroom cleaning and disinfection frequency at a pre-COVID-19 schedule is adequate as the disease transmission reduction for the restrooms is achieved by usage procedures by the users. Products must only be used within the manufacturer’s recommended guidelines.

CLINIC VISITS

Current State

Nurse Services

When students report to the clinic area, their temperature will be taken. Those with a fever will be taken to an isolation room. Mental health needs will be transitioned away from the clinic. Ill students will be dismissed out of Door 1.

Discussion

No additional discussion items.

Recommendations

Nurse Services

Consider using a pre-authorization system for visits to the clinic/nurse. This enables all parties to ensure that there is room in the clinic area and allows for pre-staging/isolation if required.

MAIN OFFICE VISITS AND COMMUNICATIONS

Current State

Student visits to the office should be kept to a minimum. Students will be seen one at a time for disciplinary action to maintain 6-foot distancing. For minor infractions, students will be seen in a private larger space.

Discussion

No additional discussion items.

Recommendations

Ensure that any writing utensils are sanitized after use and establish a schedule to routinely (nightly) clean and sanitize surfaces.



VISITORS

Current State

Visitors to the school must wear a face covering to enter. Sanitizer must be used on their way in and out of the building. The administrative staff controls access to the building by means of a buzzer to unlock the door. Only essential visitors will be allowed into the high school building.

Discussion

An area/seat should be pre-established/identified to secure someone who may not be able to wear a face covering due to medical reasons. At that point, administrative personnel should ensure that they maintain a 6-foot distance from the individual and sanitize applicable surfaces after the visitor has left.

Recommendations

Face coverings should be pre-positioned for availability to anyone that arrives without one. Hand sanitizer should be available for use when someone enters building. Visitors should always remain masked while at the school. Visitors should be asked to certify they have had low risk to exposure to COVID-19, similar to the process used for staff to gain entry.

RESTROOM USE

Current State

There are no specific guidelines established in the reopening plan for restroom use.

Staff restrooms are single person spaces and are locked when in use. There is guidance provided to follow handwashing protocols and to wipe down all handles touched after use.

Discussion

There is no additional ventilation in staff restrooms.

Restroom use will have to be monitored by the students themselves. Oversight must be provided periodically by teachers/staff to make sure students adhere to the procedures. Maximum occupancy levels must be followed. It is safer for the student to wait in the hallway rather than wait in the restroom if it is full. Some thought should be put into managing the restrooms during high use times (in between class bells). It might be better to send students directly from the classroom at a steady pace and eliminate the race to use the facilities in between classes.

Recommendations

All Restrooms

Ensure each bathroom has paper towels, which should be used to turn faucets off. Remind students and staff that washing their hands with soap and water for 20 seconds is critical. The hand washer can sing a verse of their favorite song as an indication of a 20-second period. Once hands are washed, care should be taken to not contaminate them as they proceed out the door. The paper towel used to dry their hands should be carried with them to the door, where we recommend the trash can be placed. This facilitates use of the paper towel to open the door to exit and also provides the convenience of disposing of the paper towel. Procedures have been developed to post in each of the restrooms. Students should be briefed on the procedures and expectations.

USE OF LOCKERS/HALLWAYS

Current State

Lockers will not be used this year.



Discussion

Backpacks may need to be stored under student chairs or lined on an empty wall. Any way to limit the number of items a student needs to bring to class would be a beneficial consideration. Additional items in the classrooms add to the load of both items to clean and potential carriers/vehicles to transport disease.

Hallways are wide enough to support two-way traffic for the limited amount of time that students will be in them. Teachers will need to monitor the hallways between classes and reinforce appropriate behaviors. There is one hall that facilitates a unidirectional flow on the upper level. Travel will be in a counterclockwise pattern.

Recommendations

Consider reducing the number of things the student must carry back and forth from school and eliminate the need for backpacks or reduce the size requirement of them.

Face coverings must always be worn whenever traveling in the hallways. Always walk on your right and maintain distancing between students walking in the opposite direction and those both in front and behind.

Directional signs should be posted to reinforce the direction of travel on the upper level around the science rooms.

CLASSROOMS - GENERAL

Current State

Cleaning

All surfaces and tables must be cleaned between use/class periods.

Community Supplies

Teachers have been instructed to limit community supplies and instead, require/create individual supplies. If community supplies are used, they will be cleaned between uses or students must wash their hands after use.

Handwashing/Sanitizer

There are hand sanitizer stations or large pump applicators located at every classroom at LHS. There are additional stations strategically placed throughout the building. Students will be required to sanitize before entering and exiting the classroom, before and after use of shared materials, before and after specials classes, before and after restroom, and before and after breakfast/lunch.

Water

Students are asked to bring their own water bottles. All water fountains should only be used to fill water bottles and not to drink from.

Discussion

Handwashing/Sanitizer

Handwashing is the preferred method for cleaning, but currently not the primary method established in plans.

Recommendations

Cleaning

No additional recommendations.



Community Supplies

Keep to a minimum and ensure cleaning/sanitizing after use or student washing of hands.

Handwashing/Sanitizer

There are requirements for students to use sanitizer after nearly every activity. Sanitizer has a high concentration of alcohol which will dry the skin. Caution should be taken to ensure students tolerate the increased use of sanitizer. Use of soap and water should be provided as an alternative, where sinks are available.

CLASSROOMS – SEATING AND GROUPING

Current State

Each individual classroom is set up differently and has its unique character.

Discussion

The theme for classrooms under these unprecedented conditions is simplicity. It is difficult to fit 25-30 students in the rooms, let alone provide distancing space. If/when the mandatory mandate to wear face coverings in schools is lifted and there is not enough space to provide at least a 3-foot separation, then students will need to wear face coverings the entire time they are in the room. To increase loading and maintain a distancing standard, a useful method is to pair two students up and allow them to become “buddies” and form a cohort within a cohort. By increasing the risk to students to a single additional student and with the addition of barriers at tables and desks, which hold more than two students, the room can accommodate removal of face coverings. For example, if a teacher sets their room up with four desks together (or 4 persons at a table), a barrier can be provided down the center of that table and the two people on each side are designated “buddies.” This buddy or couplet system can be maintained for lunch, restroom breaks, etc. The barrier allows the closer contact without the face covering. Another alternative, with 4 people sitting on each side of a table is a crisscross barrier across two corners. Again, allowing for interaction, visibility, and removal of mask in the classroom (when mandate is lifted). Spacing and configuration of tables/desks within the room will accommodate 3-foot spacing with students being either back-to-back or facing a barrier. In this way, face coverings can be removed when seated but must be worn when not seated in the designated spaces or when walking around. If parents/guardians are willing to accept an increased risk to their children beyond a single additional student, it is possible to increase the size of the sub-groupings up to four, but we recommend parent/guardian knowledge/consent to do that.

Recommendations

If each table or grouping of tables cannot be set up with barriers or distancing, face coverings must be worn while in the classroom. For classrooms that do not have enough tables and/or desks, floor space must be clearly marked and used in the same way. Community and shared items will need to be cleaned before and after each use or change of student grouping. It is not recommended to use fabric or hard to clean surfaces as community/shared items. The more shared items and spaces there are when the classroom is set up, the more time will be needed to accommodate the cleaning regimen and will take time away from learning.

Teachers will need to set their classrooms up under these guidelines. LJB would be glad to update all classroom posters when they get set up if the teacher sends us a picture. We can also provide any additional recommendations at that time on the implementation of these recommendations in each classroom setup. We have created templates for the seating arrangements in general classrooms, science/lab classrooms, and computer classrooms with 6-foot spacing and 3-foot spacing (extended to 4 feet to ensure room for movement and safe exit). Both arrangements allow for teacher space at the front of the room. To accommodate the maximum student population possible, there will not be room

for any resources such as extraneous supplies, furniture, or equipment to achieve this loading. If these extra resources must be in the classrooms, student numbers will need to be reduced accordingly.

Seating charts and accountability for children who leave the space should be maintained throughout the school year to accommodate tracing, if/when necessary (see the cluster section for details).

Update

Teachers may use face shields for instruction of hearing-impaired students who rely on lip reading for communications. When not actively teaching or communicating, face covering must be worn.

SPECIALS CLASSES

Current State

Art

Art classrooms will need to be set up as identified above with 6-foot social distancing protocol.

Band

There is no specific information on band activities addressed in the reopening plan.

Choir

There is no specific information on choir activities/classes addressed in the reopening plan.

Gym

There is no specific information on gym classes addressed in the reopening plan.

Discussion

Art

The room should be set up under the same guidelines as mentioned above. Buddies/sub-groupings can be considered for this area, if absolutely necessary. There are no clear seating positions in the art rooms, so the teacher will have to ensure that spacing throughout the class remains at 6 feet.

Band

There is little to no research specifically on wind instruments. Playing a wind instrument is known to increase respiration rates and exhaled particles and aerosols, which increases the risk for students and staff. Some studies propose a distance of 13 feet between instruments/students with an increase in ventilation from normal building design standards to dilute the aerosols and keep dose potential as low as possible. It is an increased risk to continue these activities, especially without spacing of 13 feet.

Choir

There is little to no research on singing, but there are incidents of known clusters of choir entities. It is unclear whether actual singing was the cause of the outbreak because other contributing factors were present, like sharing of food, touching common objects, and being in close proximity to other members. We do know that singing generates aerosols and aerosols significantly increases the risk for contracting COVID-19. Some studies propose a distance of 13 feet between members with an increase in ventilation from normal building design standards to dilute the aerosols and keep the dose potential as low as possible. It is an increased risk to continue these activities, especially without spacing of 13 feet.



Gym

Use of the gym can be done without increasing risk of disease transmission with implementation of the recommended controls and adequate spacing to perform activities. Using space outside is also an alternative but does not need to be the rule. Individual/Buddy activities using the couplet are lower risk than group activities. Shared equipment must be sanitized between uses and students must wash their hands and refrain from touching their eyes, nose and mouth until that cleaning can be performed. High level activities will produce sweat and increase not only the respirations, but also the need for students to touch their face and these activities should be avoided especially when community transmission is rising.

Recommendations

Art

Teachers must ensure adequate spacing between students and/equipment during class activities.

Band

Any music activities which generate expressing “pursed” or forcefully expressed air should be eliminated unless 13 feet of distance can be maintained. This is the newest information from a Canadian study performed during singing activities. This is the best applicability for wind and brass instruments also. Alternate locations that allow for distancing or making the groups smaller are options to consider.

Choir

The auditorium was evaluated as a space to enable choir to continue with approximately 30 students. There is more than enough room to space students at 13-foot intervals. This is the newest information from a Canadian study performed during singing activities. The ventilation in that room also seems to be adequate to dilute any concentrations and reduce potential dose. There are face coverings available to facilitate singing and that is another layer of protection to reduce potential risk.

Gym

Ensure distancing is maintained, especially in the locker rooms, and students have a “cool down” time before being released to change after gym activities. Face coverings will become irritating during gym activities and students will be more apt to not only touch their faces and coverings, but possibly remove them temporarily. During exertion and face to face activities, a distance of 10 feet with face coverings is required and 13 feet without face coverings (when the mandate is lifted). Thirteen feet is the preferred distance even with face coverings due to the high likelihood of non-compliance with the face covering.

Clean hand towels should be used to wipe face and eyes. Towels should not be shared and should be clean. Hands should be considered “dirty” throughout the class since this could be a very high method of transmission from use of community/shared equipment.

This is an area where cleaning and disinfecting should be enhanced. Locker room surfaces and shared equipment must be cleaned throughout the day.

Horseplay in locker rooms needs to be controlled. Additional supervision may be needed over traditional space management.

SPECIAL EDUCATION INSTRUCTION

Current State

Not specifically addressed in current reopening plan.



Discussion

These areas will be higher risk. Parents/Guardians of these students should understand this because of the environment(s) that help facilitate successful learning which include close direct face-to-face contact. The responsibility for sanitizing and cleaning will fall heavily on the educators/professionals in that setting.

Recommendations

Teacher and/or student expectations for cleaning immediately following the use of any station or community/shared item must not only be communicated but highly enforced. Netting and fabrics are not easily able to be disinfected so the benefit needs to be weighed in keeping those items in the room if students can access them. Activity based cleaning before and after each use is essential. Cubbies, once cleaned, can be spaces where students can remove their face coverings if/when there is no longer a mandate to wear them while in school. The room has numerous zones where a student can choose to occupy at any time. Intervals can be established to rotate spaces and ensure contact cleaners have appropriate contact time to disinfect. Timers can be used to facilitate the interval management and cleaning regimen. Face covering rules would be the same if the mandate for wear is removed – distancing should never be less than 3 feet; face coverings are required between 3-6 feet; and coverings can be removed when distancing exceeds 6 feet. If barriers are erected in part of the space blocking access from others, face coverings can be removed from a disease transmission standpoint.

Staff may need to wear a face shield when the situation dictates such as a student who spits, coughs, sneezes or otherwise projects fluids.

READING INTERVENTION AND SPEECH/LANGUAGE INSTRUCTION

Current State

Students will report to special education classrooms for specialized instruction. Special educators will work in classrooms to deliver instruction, as feasible. Teachers/Para educators will implement cleaning protocols after each session.

Discussion

Students can be unmasked while the teacher will need either a face covering with a clear cutout or a face shield and face covering. The covering can be lowered with the use of a clear face shield, when needing to demonstrate a task or movement, but the students would then need to be masked. Renderings have been sketched to convey the seating arrangement and this would not include any tables.

Recommendations

No more students than can be socially distanced by 6 feet can be involved in instruction at one time.

CLUSTER IDENTIFICATION

Discussion

A cluster occurs when transmission of a disease is traced back to a person or persons who have spread the disease within a population. Identification of clusters occurring in a population is important to understand disease spread, its causes and elimination of the spread. For LCS, the population would be considered students and staff (teachers and administrators). Since the population of LCS is only under the LCS guidelines to control disease part of the day on school days and not at all on non-school days, there will be cases of COVID-19 identified in the population that were not caused from attendance at LCS. There may also be cases that are attributable to spread of the disease while under the LCS policies. LCS needs to be able to discern whether the positive case was caused while under LCS policies or not. Cluster identification techniques are used to determine if there is a local spread, and therefore are very important for evaluating if the control techniques are working well. From a



confidence standpoint, the parents/guardians and community also will need to know LCS is not causing disease spread. The greatest risk to having to close the schools to in-person attendance will be to either have the perception there is local spread or an actual local spread within LCS. The greatest safeguard to prevent the perceived or actual local spread is to have the ability to identify clusters.

Contact Tracing Relationship to Clusters

The positive cases at LCS will have contact tracing performed by the county health department. Contact tracing is the process of spatially identifying for the entire infectious period where a person who has a disease has been, who they have interacted with in a manner that could transmit the disease and notifying those who may now have an increased risk of disease to quarantine or self-isolate. COVID-19 presents special challenges for contact tracing. It has an extremely long period of infectivity of between 10 and 14 days and those that are infected may not show any significant symptom for that entire period of time. When there are few cases to trace, the contact tracing can be highly effective, and the disease can be controlled and reduced in a population. The process of contact tracing can identify clusters. If during the interview stage, the same group of people keep coming up as contacts with an infected person, and they have something in common, then the commonality can be perceived as a cluster, especially if that same group of people ultimately also have contracted the disease. Since, the tracing procedure is time intensive and relies on interviews of people who usually fail to remember the past perfectly, LCS could be viewed as a cluster location even though it is not. The best defenses against any misapplied clustering is to have methods in place to self-identify a cluster and be able to demonstrate the cluster was not from LCS.

For example, county contract tracing identifies a positive case in a school age child and during the interviews the primary contacts were direct family, school students and staff, and many non-specific contacts such as during shopping trips. Since the tracing will point to many other students and some of those students may also be positive, the health department could assume the school was the source of the “cluster.” The school would need to be able to demonstrate that through the LCS cluster identification process, the students were not spatially related at school in a way that could have caused disease. Of course, if the cluster identification process did identify the students were indeed spatially related, then the school is likely the cause, or one of the causes, of the cluster and the controls being used by those students would need to be carefully reviewed to identify where they likely failed and subsequently modify the controls to prevent additional clusters.

Cluster Identification Process

Cluster identification processes are a set of management tools where the location of each member of a population is known throughout their time across a time period. For LCS, this time period is many periods but basically anytime the population is under the authority or guidance of the school policies.

The primary task is, as much as possible, to establish set places for the members of the population to occupy. Seating charts, lining up order, and limiting free mixing (roaming about) of groups is essential to identify clusters.

Recommendations

- > Consider all times where a person in your population could have greater than casual contact. Health departments are using 15 minutes but LCS can consider a shorter period of time, say 10 minutes. This provides a buffer of time so interactions that exceed your planning time, accidentally, have still been spatially controlled for the 15-minute period that will be helpful defending against a false cluster belief.
- > Use names or give each student and staff an identifier (text/number) to be used on seating, lineup, grouping charts.



- > Each day, identify all positive cases on the charts with the date positive, or the date identified to you as positive, if the actual date is not known.
- > Have a single person for the school building review the charts daily.
- > This integrator is looking for positive cases that are spatially close together over the infectious period. These spatial closeness evaluations need to be completed across all seating charts.
 - The watch period for any case identified should be at least 10 days post symptoms (14 days if the test collected is from an asymptomatic person). Using 14 days for all cases is acceptable.
 - If two or more cases are identified spatially “close,” begin an evaluation of the controls being used to identify any breaches of adherence to the controls.
 - Report to the LCS and school leadership to reduce transmission risk, (e.g. reestablish controls adherence, add additional controls, modify controls implementation.)
- > LCS leadership should use the cluster process to increase confidence in the staff, students, the student’s families, the public health department, and the community at large. Use of the information gained can be added to any communication sent from the school to internal and external entities.
 - Positive cases without an LCS cluster indicate the infection was highly unlikely to be from LCS.
 - Positive cases with an LCS cluster afford early identification of a problematic area and intervention by modifying the controls or ensuring better adherence to the controls.
- > Establish permanent seating charts for each classroom with established seating positions such as desks.
 - Identify by marks on the floor the correct location of desks and chairs. Prevent movement from these positions by policy.
 - Have students remain in their assigned seats regularly. If seat movements are needed for discipline purposes, document the new seating positions, each time.
 - If students do have to move, try to have a repeatable pattern for the movement. This keeps the subpopulation size lower. For example, if a child is being moved for discipline reasons have a short list of locations they are moved to and alternate between them if necessary.
 - Attempt to keep movement that differs from the seating chart to an absolute minimum
- > If a classroom seating chart is not possible due to the learning style, establish that group as an identified sub population and any multiple cases of COVID-19 in this subpopulation will likely be considered a cluster.
- > Establish seating charts for the buses. Make these seating charts by “pick-up location order” allowing for the bus to fill from back to front.
- > Establish a line-up order where possible. Anytime a group will need to be in line, having an order will help not only identify a cluster, but will help if the line of students will be going to another seating area such as the lunchroom. Maintain distancing while in line.
- > Establish a seating chart for the lunchroom. Use the lineup order to establish this chart. If there is an absence, skip the seat locations to ensure all students sit in their normal seat.
- > Establish zones for mixed use spaces (playground, gymnasium, media center, etc.). If multiple classes are using these areas have each stay within their zone.



The management of the seating charts can be challenging. Keeping up with the task requires a group effort to collect the data and an integrator to bring all the data together. Even if there are no positive cases for many weeks, the data collection process should be maintained. Having a historical record of 14 days is required to properly identify a cluster or refute that LCS is a source of a cluster. Records that have the latest case listed, which is greater than 14 days ago and with no newer cases, can be destroyed. These records should be shredded if private identifying information is used on them. A process that works well is as follows.

- > Each manager of a space, (e.g. classroom, gymnasium) marks a daily or ‘class by class’ attendance/seating log and notes any movements of students on a local seating chart. Numbering each chart as a “page number” assists in collating in a set order when collected daily. For rooms with multiple populations using the room or space, a new chart is filled out each time the population changes. For these multiple charts, having a second number/letter for ordering is beneficial.
- > All charts are collected, ordered, and bound together daily.
- > Positive COVID-19 cases are marked on each chart. A student or staff will likely self-identify as positive days before the school is notified of the positive result by the local health department or other entity. Therefore, the charts from previous days must be annotated with the date of the positive test. Future charts must also be annotated with the positive result for a total of 14 days.
 - If a marked positive test on the chart results in no close contacts also coming up positive within 14 days, the case should be annotated as not involved in a cluster event. Crossing out with an “X” works well.
 - If a second positive case is identified spatially close to a first case, they should be annotated similarly to the first case but with their identified positive case date. A cluster event ends when no new cases are identified in the sub-population for 14 days.
 - For any multiple cases spatially close, identify the group to LCS administration to take action to reduce transmission risk
- > Records older than 14 days, which also have the latest case on them which is >14 days old and no new cases identified, can be destroyed.

MISAPPLICATION OF CONTROLS AND CORRECTING IMPROPER BEHAVIORS

Discussion

Plans and controls are only as good as the adherence to them by the population being protected. Each control is designed as a layer, which when placed together, provides overlapping disease transmission prevention (e.g. 6-foot distancing and cluster identification). The multiple layers of control therefore allow for some lack of adherence to the guidelines without significantly increasing the risk. Not applying multiple controls at a single time does increase the risk of disease transmission. For this reason, it is important that the population knows the expectations of them, has been trained on the proper guidelines, and follows them as consistently as possible.

Understanding how non-compliance or deviations can affect everyone around them is valuable if the student is old enough to understand the concepts. In the big scheme of things, this pandemic will be short-lived, but the habits that are formed will provide protection for a lifetime.

Recommendations

This report includes many of the controls LCS will use to reduce disease transmission. An education and training program for both students and staff should reiterate the importance of these controls, how they benefit the entire population, and instructions on how to properly implement each control.



Demonstrating proper procedures is especially beneficial in the education process and should be completed for the following types of controls:

- > Hand washing technique and frequency
- > Face covering placement, wear, storage
- > Distancing while walking or in waiting line
- > Loading bus, lunchroom, or classroom

Displaying the forms that supplement the established procedures (Hazards, Practices, Procedures, Protective Equipment (PPE) & Controls) in conspicuous locations at the entrance to spaces/rooms and within spaces/rooms. The authority who is controlling the room should go over the expectations regularly, until habits are formed, which will help to ensure regular adherence. This focused effort on instilling new behavior sets will ensure the safest environment with the lowest risk. Many of the guidelines do not change from room to room but some rooms have unique expectations. The unique requirements will need extra reinforcement by the authority of the room.

Each staff member should be empowered and expected to correct improper behaviors when seen and guidelines should be given to staff on the areas they should be watching for. The common behaviors are normally seen, and which should be corrected are:

- > Face coverings
 - Not covering nose and mouth at all times when masked
 - Touching the face covering surface
 - Pulling face covering away from mouth to speak
 - Placing the inside (mouth and nose side) of the face covering on a potentially contaminated surface (fomite transmission)
 - Not wearing the covering at the designated distance. At the writing of this report, face coverings are required along with 6-foot spacing. This is higher levels off control than would be required for COVID-19 transmission prevention. If the external factors driving these two requirements are removed, then masking only when sitting closer than 6 feet or masking when standing and moving from a designated space will be an additional control to monitor.
 - Not wearing face shields when chance of spittle could impact the eye and closer than 6-foot, (e.g. speech therapy, foreign language demonstration, eating, working with child with behavior or physical ability challenges.)
- > Hygiene and Handwashing
 - Touching of the eye, nose or mouth with any object not verified to be clean (finger, fork, pencil, pen)
 - An object designed for the mouth touching a potentially unclean surface (fork on table)
 - Not washing hands with soap or not washing for 20 seconds. A good recommendation is to scrub vigorously while singing a stanza of “Old MacDonald Had A Farm.” *Note: This song works well as the “item” on the farm can be changed to many different and unusual things keeping the song fun.*



- Not using paper towels to turn off faucets and not using the same towel to open and close doors if needed to exit the bathroom
- Not disinfecting shared items before use by another person
- Not providing sufficient contact time for disinfectant to work
- > Spatial Distancing
 - Moving furniture (desks and chairs) from designated locations
 - Leaning in or moving forward when speaking
 - Crowding while transitioning classes, waiting in lines, at entrances and exits, waiting for supply or item distribution, collecting work or papers, retrieving stored items
 - Overloading bathrooms
 - Grouping in exterior spaces. It's important to note that recess or other outdoor groupings, such as dismissal, result in the thought that since they're outside "the rules don't apply."
 - Failing to follow directional guidance

The empowered staff should be asked to be watchful of improper behaviors and when seen instruct the individuals on the proper actions to take. During times where students are moving, staff should go to the areas and help to monitor the free travel spaces such as the hallways, cafeteria, recess areas, etc. Students or staff that will not comply after being corrected present a risk to the population for disease transmission. To reduce that risk their interaction with the population should be eliminated or significantly restricted.



FACILITY-WIDE CONSIDERATIONS

INITIAL REOPENING PLANNING

The initial planning was performed with the sole focus on limiting movement and establishing the classroom as the cohort. Making individual and task-based decisions under these rules is not uncommon or wrong. Sometimes, however, it locks the decision-makers into scenarios that may create overall higher risk. LJB has evaluated each specific task and area with and against the information provided in the draft reopening plan for LHS. The effort put into developing the plan is commendable, and we are honored that you have trusted LJB to provide you with recommendations that provide a high degree of safety for both students and staff. When developing our recommendations, we evaluated both individual tasks and activities across the spectrum during a school day, and we are confident in providing a safe and healthy school year for students and staff at LHS.

VENTILATION

Ventilation is provided from rooftop units. The systems monitor the carbon dioxide levels at the unit as a primary trigger. Currently the systems are set for dampers to open at 600 parts per million (ppm). Some units service up to 10 classrooms. Temperature is monitored as a secondary trigger in each of the classrooms. An optional enhancement for reduced viral load in rooms would be to manually override the ventilation to have dampers fully open when operating, which brings in additional fresh air.

RUGS AND CARPET REMNANTS

Area rugs and carpet remnants can be found in many classrooms. Based on LJB's recommendation, the District has decided to remove area rugs because of the inability to properly clean and sanitize them. An alternative is to provide each student with their own pad to sit on. These pads need to stay under the control of the student and not be stacked or comingled together unless they have a surface which can be disinfected (such as a yoga mat).

FIRE, TORNADO AND LOCKDOWN DRILLS

There is no reason these drills should be suspended. Attempts can be made to maintain some separation and masks should be worn. The potential risk from fire, tornado or lockdown exceed the risk of COVID-19. If there are options for date and frequency of drills, selecting a date without known active COVID-19 cases would be preferred. If there is a minimum number of drills required with optional drills possible, reduce the number of drills to the minimum required.

WAXING AND WANING CONSIDERATIONS

Flexibility during this pandemic is key to continued operability and success. However, the student and parent/guardian populations rely heavily on stability. The plan was written primarily in compliance with a 6-foot distancing model, which provides the highest level of safety for students and staff. We recommend monitoring the dashboard and local conditions periodically. Do not change your controls if the period of reduced transmission will be short lived to provide that stability. If the disease transmission risk clearly recedes and directives from the state and county provide relief from the 6-foot spacing and masking rules, take the opportunity to flex to the unmasked at 6-foot or masked at 3-foot guidelines. The recommendations within are provided under the continued risk of COVID-19 and operating under minimum levels and flexibility of protections.



CONCLUSION

This report has been exclusively developed for Loveland High School. We do not recommend application of any of the recommendations to other facilities without additional consultation. Consideration must be given to space requirements, ventilation, loading capacities, and a host of other factors in determining specific, desired outcomes. Each educational facility will receive a separate report.

Screening procedures are highly emphasized as a tool to prevent spread of COVID-19 – and rightly so. Understanding both capability and limitation of this tool is critical in the overarching program elements and execution. Children and staff must NOT come to school if they are ill and/or experiencing fever, cough, shortness of breath, etc. If an individual or family member has been notified of an exposure to someone who tested positive, they must stay home and remain there until the recommended period has expired. This is a critical period of transmission and spread of disease.

Classroom occupancies have been reduced to accommodate 6-foot distancing throughout the facility. This is the best option to facilitate classroom instruction under these unique circumstances and reduce risk to minimal levels during the school day. Serious consideration needs to be given as to the risk of continuing band and choir in traditional ways. Non-traditional instruction might mean practicing over video from the safety of each person's home or making video recordings for correction and feedback. Instruction might need to shift this year and focus on theory or rhythm. Innovation blooms in times like these so find creative ways, not optimal, to continue this learning.

Very specific guidance has been provided at every juncture of the student's day to decrease risk potentials, and the LHS staff has contributed immensely to providing this environment for students. Despite the planning, there will be positive cases of COVID-19 at the school. Using the controls and techniques included in this report will help LHS identify if the controls are applied properly and verify that they are working. If a cluster is identified, rigorous adherence to the protocols should be reemphasized and additional controls can be added if desired at this time.

Lastly, students and staff will have to learn what it means to follow these guidelines – to include both positive and negative consequence of their behaviors. Voluntary adherence is a must and those unwilling to be compliant present an unacceptable risk to all, jeopardizing the larger LHS population. Addressing offenses must be quick and effective and any changes that result in improvements to the procedures must be clearly communicated as soon as possible.

LJB Inc. would like to thank the numerous staff members for their generous time in working collaboratively to establish this plan for LHS. The best way to achieve success is to have a plan that can be implemented. The collaboration efforts have confirmed this will be achieved by LHS and will set the school up for success.

