

**QI Project: A School Nurse-Led Educational Initiative to Improve Parents' Understanding
of COVID-19 Quarantine Guidelines**

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NURS 5368: The Leader Within: Professional Accountability, Succession Planning and

Reflective Practice

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Executive Summary

In January of 2021, Texas reported 127,334 individuals infected with COVID-19 were hospitalized, and of those cases 28,553 were in the intensive care unit (*Texas COVID-19 Case Notes - January 2021*, n.d.). While COVID-19 was reaching a record high number of cases Texas continued to have in person learning for grades K-12. The CDC, Williamson County, and Texas Education Agency (TEA) were making frequent changes to school protocols for COVID-19 exposure and quarantine guidelines. These new changes confused parents and students regarding the COVID 19 exposure and quarantine guidelines. Parents were calling the campus nurses voicing their frustration with this complicated process. The purpose of this quality improvement project (QI) is to increase the percentage of parents that report a good to excellent understanding and knowledge of the exposure and quarantine guidelines and decrease the number of students who returned to campus before guideline recommendations, following implementation of a parental education initiative conducted over a three-months. The goals of this QI project are that all parents of students who have been exposed to COVID-19 during the 3-months will receive education regarding the exposure and quarantine procedures, and report improved understanding of guidelines following the education when compared to pre-education, and no exposed child will return to school before quarantine recommendations

Project Implementation

This QI project used a before and after design to implement a COVID-19 exposure and quarantine guideline educational tool to be delivered by the project director or school nurse to parents of exposed children. 25 eighth-grade parents from a middle school in Georgetown, Texas were asked to participate in the study. Parents understanding and knowledge of the COVID-19 exposure and quarantine guidelines were assessed before the educational intervention. The next

part of the project was for the project director (PD), or the school nurse to provide education to these parents about the guidelines and then assess parents' understanding and knowledge after the educational intervention was completed.

Results

100% of parents of students known to have been exposed to COVID-19 received the education and reported understanding of the guidelines. All parents received education during the 3-month period regarding the COVID-19 exposure and quarantine guidelines to reach our goal. Our goal was met by a significant increase in parents understanding and knowledge of the COVID-19 exposure and quarantine process after the educational intervention. No students returned to campus prior to quarantine recommendations after receiving the education provided: thus, reaching the second goal

Impact

Providing education to parents for the COVID-19 exposure and quarantine guidelines was effective in increasing parents' knowledge of the guidelines and ensured that no student returned to campus before they were able to. When we think of the impact of this project on the school, we can state this education intervention was one more mitigating strategy to prevent the spread of COVID-19 at the campus. With known and documented spread on campus within the district, county, and state by implementing this educational intervention state and countywide we could stand to see the spread of COVID-19 drastically decrease on campus and save the lives of many students and staff members on campus. In addition to saving lives, this impact would benefit the school systems financially as they are reimbursed for student attendance.

QI Project: A School Nurse-Led Educational Initiative to Improve Parents' Understanding of COVID-19 Quarantine Guidelines

Williamson County reported a total of 23,414 cases of Coronavirus Disease 2019 (COVID-19) with an additional 233 cases the first week of January, and the positivity rate increased to 16.60% with Georgetown having the second largest number of cases in the county (Linan, 2021). The county declared an uncontrollable rate of spread of COVID-19 and entered Red Phase. The average hospitalization of COVID-19 patients was 682 for a 7-day average and there were less than 5 ICU beds within the county. School Nurses educate parents and students daily during the school year. They educate on disease processes, health promotion, and policies and procedures. Parents want a clear and concise understanding of what is going on with their children.

Georgetown ISD was forced to create and implement new safety protocols during the COVID-19 pandemic. One process that was developed was the COVID-19 Exposure and Quarantine Guidelines. These guidelines took staff, parents, and students through a systematic approach of what would happen if there was a COVID positive case or exposure. To experienced users of this process map, it seems very straightforward. To parents who have no experience with the process, the feedback was that it was very confusing and frustrating to navigate. Studies have shown that when parents have a better understanding of the issues with their child, there are better outcomes (Bergren, 2017). Nurses continue to perform evidence-based practices that emphasize the health education of parents and students; thereby enhancing improved student outcomes. The purpose of this QI project was to decrease the spread of COVID-19 on campus by yielding a reported better understanding and knowledge of the guidelines through education intervention.

Background

Review of Literature

The role of a school nurse is diverse and includes care coordination, leadership, health promotion, quality improvement interventions, and health education for parents, children, and staff. According to one integrative literature review of sixty-five studies found that school nurses provide interventions, activities, and health education that are linked to positive student outcomes (Best, 2018) One qualitative study that was conducted using thirty-one school nurses in England found that evidence- based public health educational resources are needed to help educate families and students (Hoekstra et al., 2016). School nurses should partner with universities to need to perform studies relating to school nursing interventions and how to implement them into evidence-based practice (Maughan & Bergren, 2021). A systematic review of literature of eight articles found school nurse-led asthma education programs provided to both students and parents yielded improvement in asthma management and fewer ER visits, hospitalizations, and unscheduled doctors' visits (Isik et al., 2019). A quality improvement project reported an increase in Human Papilloma Virus (HPV) vaccinations after a school-based health center initiative used recommendations and parent education about HPV (Edwards & Hooper, 2019). After processing the feedback from parents there is a clear need to develop an educational intervention to improve parent understanding and knowledge of the COVID-19 exposure and quarantine guidelines

Description of the Problem

This QI project was conducted at a middle school located in Georgetown, Texas. In January of 2021, the Georgetown Independent School district saw the highest number of COVID

positive cases among students since the start of the pandemic in March of 2020. There was documented spread of COVID-19 on campus. Parents were sending students back to school too early or not quarantining when required due to a lack of understanding of the exposure and quarantine guidelines. An initial informal survey of parents and nurses asked about how well parents understood the exposure and quarantine guidelines while also asking the nurses how many parent complaint phone calls they were fielding daily. The information obtained yielded that there was confusion and frustration for both parents and nurses regarding the guidelines. School nurses reported receiving angry parent phone calls daily because parents did not understand the process. After processing the feedback from parents and nurses about the lack of clarity for understanding the guidelines there was a clear need to develop an educational intervention to improve parent understanding and knowledge of the COVID-19 exposure and quarantine guidelines to ensure students would quarantine when necessary and not return to campus early to mitigate the spread of COVID-19 on campus.

Theoretical Framework

The Plan-Do-Study-Act (PDSA) model guided this project. This model was originated in the 1930s by Walter Shewhart. This model discusses four different stages to solve a problem and is often used in improving processes or assisting to implement a needed change. The planning phase of the model involves defining goals and steps to be taken to accomplish the change. The Do stage is the implementation of the planned change. The Study phase focuses on measuring results and evaluating the results of the tested change or improvement. This stage also examines if further action will be determined. Finally, the Act phase of the cycle address corrective action based on the results of the study if the change did not work this phase is where there reflects what needs to be done differently This model has been used frequently in quality

improvement nursing projects. The PDSA model has been used in creating audit tools in assessing nursing education courses (Little et al., 2019). A second framework used to guide my QI project was that of Lewin's change theory. We must first look at why there is a need for the change and understand that need. Lewin talked about the three stages in nursing change theory which are unfreezing, change, and refreezing. These stages allow us to find a method to make the change, then drive to make the change, and lastly move to the change. This change supports evidence-based practice (Manchester et al., 2014).

Purpose Statement and Project Aims

The purpose of this QI project was to improve parental understanding of COVID-19 quarantine guidelines and to stop students exposed to COVID from returning to school prior to guideline recommendations. The clinical question in this QI project was: Does implementation of an educational intervention of the COVID-19 exposure and quarantine guidelines in a GISD middle school increase parent understanding and knowledge of the correct procedure for exposure and guidelines and ensure students do not return to campus early?

The project aims were:

Aim #1: Parents receiving the exposure and quarantine education will report improved understanding of guidelines following the education when compared to pre-education.

The goal here is that 90% of parents will report an increase in understanding regarding the exposure and quarantine guidelines.

Aim #2: Students will not return to campus before the exposure and quarantine guidelines allowed them to do so. The goal is that number of days on quarantine is 14 and the number of students returning early were zero by May 31, 2021.

Methods

Project Design

This quality improvement project utilized a before and after design. This design was used to implement an educational initiative for parents. Parents were surveyed to determine if their understanding of the COVID-19 quarantine guidelines improved following the education. When strategically planning for this project a Strength-Weakness-Opportunities-Threats (SWOT) analysis was conducted to identify key factors that impact the project. A strength identified was the consistent approach and education that every parent would receive. Weaknesses includes a limited number of parents that met criteria and voluntary participation, Opportunities identified for this project included implementation of the project in similar settings if successful. The threat was the constantly changing COVID-19 quarantine guidelines issued by the Texas Education Agency (TEA)

Participants and Recruitment

This project was reviewed and approved by the middle school campus administration and the Department of Operations. For this QI project, Personal Health Information (PHI) was collected but not identifiable. The project director stored this information on a password-protected laptop that only the director had access to. A letter of support was obtained from the Director of Operations to fully support the QI project.(See Appendix-A).

All the eighth-grade parents from a GISD middle school that met the criteria were enlisted to participate during the three-month data collection process of the project. The inclusion criteria for this project were: 1) the participant needed to be the legal parent of a student that had tested positive for COVID 19 or has a known exposure to a COVID 19 case 2) English or Spanish speaking 3) Parents that were interested and agreed to participate in the project.

Intervention

This project used an educational tool developed by the project director (See Appendix 2). The tool consisted of a step-by-step process from when the parent notified the school nurse of their student's positive COVID-19 test or when the parent was notified that their student was identified as having close contact exposure to a positive COVID-19 case. The following steps were taken for each case:

1. As each positive COVID-19 student was identified or close contact exposure was identified I, the project director (PD), or the school nurse, called parents to come and pick their child up in the school clinic.
2. Upon parent arrival to the clinic, I or the school nurse asked the parent to fill out the pre-education (baseline) survey, by way of Google Forms or a hard copy. The survey used a Likert scale to measure parents' understanding of the COVID-19 exposure and quarantine guidelines as most currently described by the CDC guidelines. It is a self-report tool. The scales span from (1) poor understanding to (5) excellent understanding. (See Appendix 3.)
3. Following the pre-educational survey, I or the school nurse explained the exposure and quarantine guideline and utilized the COVID-19 exposure process educational tool. This tool takes the parent through a step-by-step approach of how the process will look including the quarantine start day, return day, and resources for parents (See Appendix 2.) Each parent received the same instructions via email as they receive verbally in the clinic.
4. After receiving the education, the parents were emailed a post-education survey within 24 hours to assess their level of understanding of the COVID-19 exposure and quarantine

guidelines after the implementation of the tool. Parents who did not have access to the digital survey received a phone call from the PD to complete the survey over the phone (See Appendix 4.)

5. To ensure that each parent received the same education a script was created so that I, the project director, or the school nurse would give the same explanation of the tool and process to each parent that participated in the QI project.

Measurement Tools

The pre-and post-education surveys were developed and delivered using Google Forms. The PLD created the survey using a Likert scale to measure the parent's understanding of the COVID-19 exposure and quarantine guidelines as most currently described by the CDC guidelines. Answer choices ranged from (1) poor understanding (5) excellent understanding. (See Appendix 3.) A higher score, then indicated better understanding. The other tool used to collect attendance data was the school's Skyward System. This system is used by the attendance clerk to report students' presence or absence for each day of the school year. A code of Q was used for students that were quarantined due to close contact. A report was run for all participants on the number of days they were on quarantine.

Data Collection

Data collection was ongoing from March to May of the 2021 school year (See Project Timeline in Appendix 5.) We collected a pre-education survey when the parents came to the school to pick up their child or notified us their child had tested positive for COVID -19. Upon the parent's arrival to the clinic, we asked the parent to fill out the pre-education (baseline)survey, using Google Forms or a hard copy. The google forms were kept on a password-protected computer in a secure drive. The hard copies were scanned into the drive on

the password-protected computer and then shredded. After receiving the education, the parents were emailed a post-education survey, same as the pre-education survey, within 24 hours to assess their level of understanding of the COVID-19 exposure and quarantine guidelines after the implementation of the tool. There were email reminders and reminder messages to parents to ensure that these surveys were completed. Parents who did not have access to the digital survey received a phone call from the PD to complete the survey over the phone. (See Appendix 4.) I reviewed the attendance reports from March 1, 2021, until May 31, 2021, in the school district's Skyward system. For each student, I recorded the number of days absent from the date of exposure.

Data Analysis

The data analysis was used to convert the google survey form results into a spreadsheet. Attendance reports were also run from the Skyward system. To determine if my targeted Aim #1 was met, I tabulated the scores from the pre-and post-education surveys and reported the percentage of parents who selected a rating of 1 very poor understanding, 2 poor understanding, 3 average understanding, 4 good understanding, and 5 excellent understanding to determine if at least 90% of parents reported improved understanding. To determine if Aim #2 was met, I reviewed attendance reports from the school district's Skyward system. For each student, I recorded the number of days they were absent from the date of exposure. I then calculated the mean number of days students were absent.

Results

Implementation

The school clinics were extremely busy during the pandemic. With the clinics having heavy traffic of students and staff, parents were taken into a private office when arriving to

campus. The parents were then given a baseline survey of the level of understanding of the guidelines followed by the educational intervention. Approximately 15 minutes were spent with each parent. The office staff was asked to answer phones and handle inquiries in the clinic to ensure the school nurse of PD had the proper time to spend with each parent to field questions and administer the baseline survey. Parents were emailed the post survey or received a phone call from the PD.

Outcomes

Project Aim #1 results:

Pre-education surveys were completed by all parents who met criteria during the project period (N=25). Their responses indicated that prior to the educational intervention 84% of parents reported a poor understanding of the COVID-19 exposure and quarantine guidelines, 12% reported a satisfactory understanding and 4% reported a good understanding. The baseline survey results were that 44% of parents had a very poor understanding of the COVID-19 exposure and quarantine guidelines, 40% of parents reported a poor understanding, 12% of parents had a satisfactory understanding and 4% reported a good understanding. No parents reported an excellent understanding of the process. (See Figure 1.) The post-education survey results were that no parents reported a very poor understanding of the COVID-19 exposure and quarantine guidelines. No parents reported a poor understanding, 8% of parents had a satisfactory understanding, 20% reported a good understanding and 72% of parents reported an excellent understanding of the process. (See Figure 1.) The education intervention survey yielded a rate of 92% of parents reported a good understanding of the exposure and quarantine process and 8% reported a satisfactory

understanding. No parents reported a poor understanding of the guidelines post-intervention (See Figure 1.)

Project Aim #2 results:

The required number of quarantine days after exposure to COVID-19 is 14 total days. All the 25 students stayed home for the recommended quarantine period and did not return to campus early. All Absences were tracked in the attendance system and marked Q for quarantine excused. (See Figure 2.)

Discussion

The purpose of this quality improvement project (QI) is to increase the percentage of parents who reported a good to excellent understanding and knowledge of the exposure and quarantine guidelines and decrease the number of students who returned to campus prior to guideline recommendations, following implementation of a parental education initiative conducted over a three-month period. The project aims were:

Aim #1: 90% or more of parents that received the education initiative would report a good to an excellent level of understanding of the quarantine process.

Aim #2: Students would not return to campus before the exposure and quarantine guidelines allowed them to do so.

The education intervention reported that 92% of parents reported a good to excellent understanding of the exposure and quarantine guidelines thus meeting Aim #1 in the QI project. All students stayed at home for 14 days and did not return to campus before the allowable date thus meeting Aim #2 in the quality improvement project.

The QI project was successful in increasing understanding and knowledge of a guideline for parents and helping to mitigate the spread of COVID-19 on campus by having

students stay home for the recommended quarantine period. Taking time with each parent to perform the education intervention in a private office was vital to this project.

Difficulties encountered during the QI project were that the clinic's daily environment was forever changing such as the number of visits to the clinic and acuity of visits, so we needed to adapt to every situation to ensure that we could provide the parent education intervention in the same environment consistently.

The results of this QI project were consistent with other studies in relation to school nurses providing education to parents to improve student outcomes. In a similar study parents of children shared their ideas of what they think a healthy weight is for six-year-old children and how their perception changed after education from the school nurse about healthy behaviors and practices (Moberg et al., 2021). Another study on suicide prevention and the role of the school nurse yielded the conclusion that school nurses being involved in family and student education gives a better understanding of suicide prevention to both students and parents (Roberts et al., 2018).

Limitations

One of the major limitations was the small sample size and may not be an accurate representation of the entire 8th-grade population on campus. Full demographics were not collected and would have provided a better understanding of breakdown by characteristic.

Interpretation

This QI project was guided by the conceptual framework of Lewin's Change Theory. Unfreezing, changing, and refreezing are the first three steps of this framework. These interventions led us to be able to determine the need for change, empower action to make the change, and develop ways for us to incorporate the change into the culture. This quality

improvement project was also guided by the PDSA model. In the first step of the PDSA model, we identified participants, created an education tool, and created surveys. In the second step of the model, we provided a baseline survey for parents, introduced the educational tool, provided a post-education intervention survey, and collected the data. In the third step, we analyzed the data from both surveys and pulled attendance records. We also concluded that the educational intervention was successful in improving parent knowledge and understanding of the COVID-19 exposure and quarantine guidelines. We are currently in the fourth stage of this cycle and disseminating the findings to our district leadership team and thinking of future implications. This project was successful for this campus and did decrease the early return of students from quarantine which aided in mitigating the spread of COVID-19 on campus. The smaller number of cases on campus means more in-person learners which the school district is funded for. That is a large financial implication for this middle school.

Conclusions and Implications

This project demonstrated the impact of school nurses providing education to parents and improving student outcomes by improving parents' knowledge and understanding of guidelines and thereby mitigating the spread of COVID-19 on campus. This campus felt the impact that the education made with the nurses reporting fewer angry parent phone calls and students remaining out for the quarantine period. The findings could be applicable in other similar school settings and if implemented we could possibly eliminate the spread of COVID-19 on all campuses. We learned how important education is in promoting healthy outcomes. We have learned that when there is a difficult process to navigate it is evident that we must implement some form of education to have clarity

regarding the process. This QI project clearly showed us that when parents understand a guideline or process there are improved outcomes. Future QI projects need to be performed by school nurses to continue to promote-based practice, improve quality care, and promote equitable health care for all students.

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Texas COVID-19 Case Notes—January 2021. (n.d.). Retrieved November 16, 2021, from <https://dshs.texas.gov/coronavirus/casenotes/January2021.aspx>

Figure 1

Level of Understanding of the COVID-19 Exposure and Quarantine Guidelines

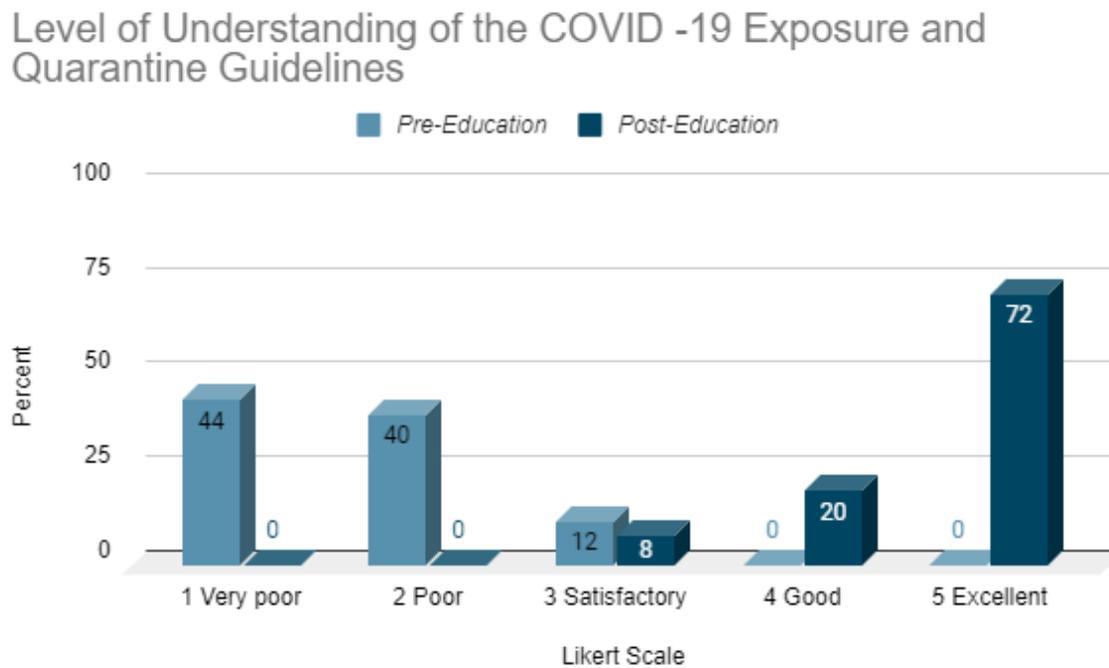
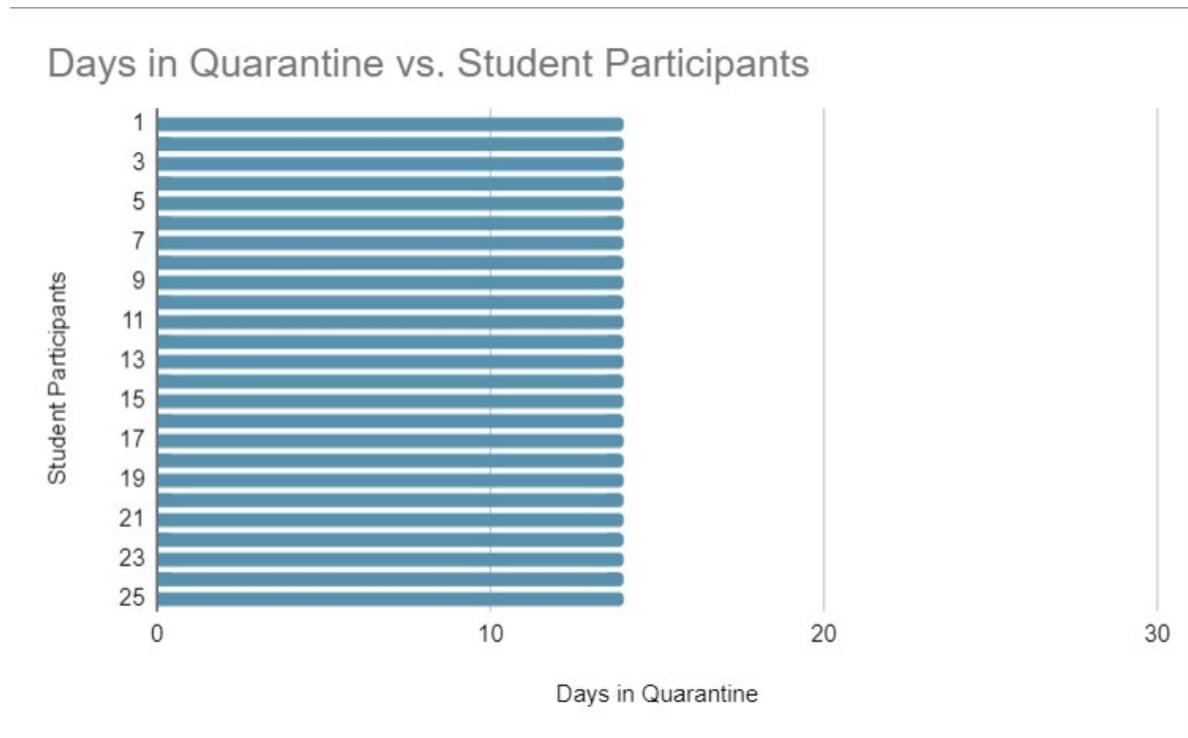


Figure 2

Days in Quarantine



Appendix 1

Letter of Support



Superintendent of Schools Dr. Fred Brent

February 1, 2021

To Whom It May Concern,

Facility Letter of Support

I am writing this letter of support for, Mindy Petty. It is our intention to support Mindy Petty's quality improvement project Improving the Process of Educating Parents Regarding the COVID-19 Exposure and Quarantine Guidelines.

Sincerely,

A handwritten signature in black ink that reads "Heather Sloan". The signature is written in a cursive, flowing style.

Appendix 2

COVID-19 Exposure and Quarantine Educational Tool

Forbes Middle School

1911 NE Inner Loop

Georgetown, Texas 78626

School Nurse: (512) 943-5151

Home Quarantine Instructions for Close Contacts to COVID-19

Student's Name:

Quarantine Start Date:

May return to school on this date (after day 10 without testing):

OR, on this date (after day 7 with a negative **PCR** test on day 5 or later):

Continue to monitor for symptoms until this date (14 days after exposure):

Immediately notify your school nurse if symptoms develop or you receive a positive COVID test.

When do I need to Quarantine?"

Your school nurse will ask you to quarantine if you are considered a close contact to COVID-19. By doing this, you can help prevent the spread of COVID-19 that can occur before a person knows they are sick. See the dates above for your quarantine dates.

Who needs to quarantine?

People who have tested positive within the last 3 months generally don't need to quarantine. Direct any questions to your school nurse.

What does close contact mean?

You are a “close contact” if you were within 6 feet of someone with COVID-19 for a total of 15 minutes or more over a 24-hour period with or without a mask.

What should I do/not do during quarantine?

You need to restrict activities that may put you in contact with others. Stay home. Do not go to school or public places (athletic events, grocery stores, parks). Do not go to friend’s homes. Do not allow visitors to your house. Separate yourself from others in your home (stay 6 feet apart at all times, wear a mask if you’re outside your bedroom, use a separate bathroom, if available). Practice good hygiene (sneeze or cough into a kleenex and dispose of it immediately, wash hands often or use hand sanitizer often). Notify your school nurse immediately if you feel sick or test positive for COVID-19.

Important things to remember:

You will need to monitor your health for symptoms of COVID-19 for 14 days from your last contact with the infected person. Symptoms may include fever, chills, cough, feeling tired, muscle or body aches, headache, sore throat, nausea or vomiting, diarrhea, congestion or runny nose, or loss of taste or smell.

Additional Resources:

Williamson County Health Department: www.wcchd.org 512-943-3640

Center for Disease Control: www.cdc.gov

GISD Covid Resource Information: www.georgetownisd.org

Your School Nurse (512-943-5151)

Appendix 5

Project Timeline

Project Timeline

