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Does an educational intervention program on infectious precautions decrease absentee rates in schools?

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Abstract

During our community health clinical rotation in a public school, we observed abundant absences in the kindergarten class, which led us to inquire: What is the possible cause for the multiple absences? Further, we noticed that the students had a hand hygiene knowledge deficit. These observations led us to hypothesize that due to direct contact transmission many absences were related to infection-related illnesses, and without proper technique and understanding of hand washing, infectious diseases will continue to have a high probability of transmission in schools. The objective of our investigation is to identify the prevalence of this issue in communities and identify a program that can be implemented to enhance the youth's understanding of and compliance with proper hand washing.

We performed a literature review and found that evidence supports our observations about school absenteeism and our hypothesis that implementing a hand hygiene program in schools may lead to a decrease in the prevalence. Therefore, the additional research question we are focusing on is, "Does an education program on infectious precautions decrease absentee rates in schools?" We carefully reviewed twelve articles examining infection transmission and hand-washing education. We found that students who do not receive educational interventions are more likely to get sick than the students who did receive the intervention. Interventions include hand-washing tips, a curriculum for infection prevention, and posters. To test our hypothesis, a mixed-method, comparative study is proposed that will provide a hand hygiene program and questionnaire to schools in Marin County. Our prospective study will compare school absentee outcomes for an intervention group and a control group to see how the two differ when provided with the current practice of informal recommendations, as needed, versus

a structured educational plan over the course of one school year. We also will examine satisfaction with the handwashing educational intervention.

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Problem Statement

In the Marin City/ Sausalito area, there is an elementary school with grades kindergarten through fifth grade called Martin Luther King Jr Academy (MLK). Young kids during this time have been absent from school due to illnesses such as the common cold, flu, or exposure to COVID. With the number of illnesses in the classrooms, the more likelihood that students will not attend school. The absentee rate of students is likely to occur because they do not want to spread their illness to other students in their classrooms.

Since we are nursing students helping the MLK Academy as our Community Health clinical rotation, we both have noticed that there are numerous students that do not cover their mouths when coughing or sneezing, picking their nose, not washing their hands, touching their face after using the restroom, and more. With this in mind, the infection rate can increase due to the spread of infection from the students.

Background

Teaching infection prevention to young kids is essential in decreasing the likelihood of spreading infection. At school, kids will touch parts of their face after playing with other students, sitting on the bus, touching shared objects from the classroom, or from the playground at schools. Around this age, kids do not think about the germs that they may have on their hands and don't think about the spread of infection. The use of their hands can be a factor that plays into why infection rates are increasing in elementary schools. As the rates continue to increase, elementary schools are struggling with absentee rates because of students missing school due to illness.

"The Center for Disease Control and Prevention reports that 160 million school days are lost each year due to infectious illnesses" ("An appeal to incorporate hand hygiene education into

standard elementary school curriculum”, 2017). Children utilize their time at school to learn and increase their knowledge; therefore, providing an educational prevention model can be beneficial to students who may or may not know about how diseases are spread. Examples of models could be teaching students how to wash their hands, teach them how to cover their mouth when coughing or sneezing, or provide pictures of information essential to stop the continued spread of infection. Education prevention could help students learn about different ways that they can help decrease their chances of missing school.

In the quasi experimental study “Comparative efficacy of a simplified handwashing program for improvement in hand hygiene and reduction of school absenteeism among children with intellectual disability” it evaluates the effectiveness of preventing transmission of a five step hand washing technique. The five steps included: between fingers, backs of hands, backs of fingers, finger tips, and thumbs. According to this method, there is a reduction in the spread of microorganisms. A point that was made in the article regarded wet sleeves and how they may “serve as a reservoir for microbes that can be transferred to the hands by direct contact, therefore providing a habitat for infectious disease transmission” (Lee, et al). Specific to Sausalito, throughout all seasons, there is a probability of cold weather every day. With that, many children are wearing long sleeves and jackets, inhibiting an environment for wet sleeves and a habitat for microorganisms.

Working alongside students, it is clear to us that infection prevention needs to be evaluated and portrayed in elementary schools. The both of us help a kindergarten class at MLK and every week there has been at least one or two students absent because of an illness or possible exposure to COVID. Students have also been present with the coronavirus because the parents felt their child had missed too much school. We noticed that the majority of the time

students cough into their hands or sneeze without covering their mouths in class. Observing these students, we saw that they do not wash their hands after or use hand sanitizer. The students' hands are covered in the germs that they just touched and began to touch other objects or students. Prevention awareness is lacking in elementary schools and needs to be evaluated closer. This is a compelling problem, and needs to be addressed.

Literature Review

There are knowledge deficits about illness prevention that children do not continuously practice at home or at school which, in turn, leads to illness related school absences. We aim to change that by evaluating numerous national and international interventions used in different schools around the world and compiling the following list of research articles to enhance general understanding of illness prevention and how to teach young children better hand hygiene to avoid academic performance deficits and reduce illness in schools.

As for the research, we utilized iceberg under ebsco host as our primary database. Many of the search terms we used were any of the following in different combinations: school absenteeism, absence, sickness, illness, children, primary school, infectious disease, hand hygiene, interventions, gastrointestinal and respiratory illnesses. There were over a hundred thousand results with the search terms "school absenteeism" and "sickness or illness or disease" in the iceberg database. The process we used for almost half of our research delved further into articles that were based in other countries so there can be a comparison to studies that were found in the United States. As for another portion of our research, we paid specific attention to sample sizes while seeking more information regarding location and relevant data about different interventions used in different populations. Researchers in all of our articles reviewed ethical

considerations that are particular to their countries' standards, and the international review board (IRB).

The literature review of this paper is divided into two different categories that utilize twelve research articles. The first category will list articles relating to interventions used in school settings. The second category will consist of articles that will evaluate how effective the intervention programs are. A summary of each study will be listed in the Literature Review Table located in the Appendix.

Category I: **Interventions Used in School Settings**

Interventions Used in School Settings

The main issue that we have identified is that there are relationships between sickness, hand hygiene, and school absenteeism, but how can we further enhance the knowledge of communicable and infectious diseases and how can we as a society prevent the constant spread? The article "The impact of common infections on school absenteeism during an academic year" from the American Journal of Infection Control (2014), assesses the effects of using a handwashing program using hand sanitizer in addition to the normal handwashing techniques and it compared outcomes on illness related school absenteeism on students who did not use the hand sanitizer. The randomized, controlled, open study was performed over an eight month long period in Almeria, Spain, with 1,609 students aged four through twelve years of age in five different public schools. Absentee data was retrieved from the school database of parental reports of the reason for their child's absence, and the accuracy of the reports were reviewed by research pediatricians by using the health database before inclusion of data in the experiment. In this study, an absenteeism report was reported if and when a child failed to attend school due to an upper respiratory infection (URI), influenza- like illness (ILI) or gastrointestinal illness (GI).

The students were separated into a control group of 823 (n=823) students and an experimental group of 786 students. The students in the experiment group attended two hour hand washing workshops which included “education about the most frequently transmitted infections in schools” transmission, prevention and “how and when hands should be washed” by using activities linking hand hygiene and infection transmission (Azor-Martínez, et. al, 2014, p. 633). In the control group, the students continued to wash their hands using their normal hand washing habits without any recommendations from adults or researchers. The article further states “school absenteeism is one of the main problems facing public and private schools” (Azor-Martínez et al, 2014, p. 635). In the data from the study, students failed to attend an average of 7.6 days of school during the academic year, which later resulted in sickness making up one-third of the data in missed school days during an academic year. The results concluded that the total amount of absent episodes due to illness was significantly lower in the experimental group than in the control group ($P < .001$).

The article proved and evaluated a variety of aspects affecting school absences, however, there were some limitations to the study such as the following: multiple reasons for absences (ULI, ILI, GI), not having the participant data of vaccination records, student allergies to the hand sanitizer, and inability to continue tracking data in the case a student moves. However, a strength the study had was the pediatrician confirmation of medical diagnoses, rather than simply basing the data off of parental reports of student sickness. Ultimately the study proved, in this population, that maintaining a hand hygiene program using hand sanitizer, and proper education, can significantly decrease infectious and communicable disease in schools.

Lee’s (2015) article “Comparative efficacy of a simplified handwashing program for improvement in hand hygiene and reduction of school absenteeism among children with

intellectual disability” discusses how poor hand hygiene in schools has created a public health concern in children with intellectual disabilities in Hong Kong. The twelve- week quasi-experimental study evaluated the hand washing abilities of the two developmentally disabled schools (intervention group) and compared the results to a previous study performed by the research team (control group). The intervention schools received a simplified five step technique which included: between fingers, backs of hands, backs of fingers, finger tips, and thumbs. The study implemented the program in three different methods which involved an eight week direct observation of hand hygiene with a validated pretest and post test, which included a fluorescent stain rating. Later, the researchers also did a sustainability assessment. According to this method, there is a reduction in the spread of microorganisms and the pre to post test resulted in the intervention group having a significant decrease in microbes after washing using the five step program ($P < .001$). Due to the greater knowledge of hand hygiene in the intervention school, the absentee rates also decreased ($P = .04$).

Moreover, one limitation for this study was that the researchers only utilized students with mild intellectual disabilities, rather than moderate or severe cases. This makes the data not relative to the greater population of children with special needs in Hong Kong, or anywhere else. Although there are some limitations, a strength for this study is that the five step technique was a technique modification from the World Health Organization.

Nandrup-Bus (2009) conducted a quantitative experimental study that used an intervention for three months. The study's primary purpose is to "...determine the effect of mandatory, scheduled handwashing on actual absences due to infectious illness in pupils" (Nandrup-Bus, 2009, p. 821). The study focused on the schools that provided the interventions and a control group that did not receive the interventions. The study samples were randomized;

the intervention school had 290 students ($n=290$), and the control had 362 students ($n=320$). The school receiving the interventions was taught different materials about handwashing, whereas the control continued to practice their usual hand washing routines. Within the study, "Pupils at the IS received 2 hours of professional instruction and were given guidance workbooks" (Nandrup-Bus, 2009, p. 825). IS stands for intervention school. Nandrup-Bus found that there was a p-value of .002, showing differences between both intervention schools and control schools. There was a p-value of .004 that determined the differences in the number of infectious illness days between the two groups. The intervention school had 567 compared to the control, which had 960 infectious illness days (Nandrup-Bus, 2009, p. 824). The results show that the resources given to the intervention school reduced school absenteeism. A strength present in the study is the pupils (groups of students), which were easily identifiable and were present in each data table.

One limitation of the study is that the data was self-reported. Students in both the intervention school and control had to report their compliance with hand hygiene practices. Sometimes, students may leave out information that may benefit the study and improve results. Overall, the study focused on the significance of receiving an educational intervention about hand washing compared to not receiving anything and continuing usual handwashing practices.

Sandora, Shih, and Goldmann (2008) organized a quantitative experimental study examining how different interventions, such as hand sanitizer and surface disinfectant, help decrease school sickness-related absenteeism. The purpose of the study was to determine how beneficial the interventions were in decreasing the number of absences in schools. The sample studied 285 students in third through fifth grade in Avon, Ohio. The groups of students were randomized into intervention and control classrooms (Sandora, Shih, and Goldmann, 2008, p.

1556). The intervention classrooms were given materials such as Clorax wipes and hand sanitizer for the students to use before and after eating or using the restroom. Sandora, Shih, and Goldmann found that using interventions within the classroom showed a significant difference in decreasing the rates of absenteeism. The control classroom continued standard practices, whereas the intervention classrooms had hand sanitizer and disinfecting wipes that could help reduce the spread of germs in the classroom. When looking at gastrointestinal illness, the absenteeism rate was lower than the control group (p -value $< .01$). Also, the study looked to see if norovirus was present on surfaces in both the control and intervention classrooms.

Results showed that the control group had an increased number of surfaces with the norovirus compared to the interventional group ($p < .001$). Strengths of the study include the number of interventions that teachers can use in the classrooms, which showed significant improvements when comparing it to the control group. A few limitations in the study consisted of confirming if the interventions contributed to absenteeism and no diagnostic tests were used for sick students. The data was retrieved from one school rather than multiple schools. The study was conducted to determine if providing classrooms with the necessary resources to prevent infectious diseases were beneficial.

Cooper et al. (2020) conducted a quantitative study that focused on improving infection prevention awareness through educational resources. The focus of the study utilizes e-Bug, a resource that can help build awareness among young kids about infection prevention (Cooper et al., 2020, p. 794). The study sample consisted of an early and late group (early group $n= 561$ and late group $n= 601$). The interventions analyzed used the e-Bug training and how it affected infection prevention, such as hand washing. Also, a questionnaire was given after the training to determine its effectiveness. For the question, " most coughs and colds get better without

antibiotics, and you should not use other people's antibiotics," the p-value for both was $<.001$. The data analyzed showed that the e-Bug resource improved students' knowledge of basic antibiotic use questions. Cooper et al. determined that "questions related to microbes, hand hygiene, and respiratory hygiene generally showed improvement in most single variable and multivariable results when comparing students who had received e-Bug training with those who had not yet received training" (Cooper et al., 2020, p. 799). A limitation of the study consists of the difficulty of computing consumption; therefore, it is difficult to determine an analysis of the data. Also, the timing of the hand washing should have been analyzed within the study. Overall, this study focuses on the implementation of educational resources in a school about infection prevention. The study can be helpful in future research by implementing a resource in schools that can decrease the likelihood of being absent.

Summary of Category I:

The articles under the first category "Interventions Used in School Settings" discuss the different interventions used in schools and how it can lead to a decrease in school sickness absenteeism. The main focus of each article highlights various types of interventions such as educational programs that improve awareness and effectiveness of infection prevention. Implementation of interventions is important to continue in future studies because the more interventions that have been proven to decrease the likelihood of infections spreading, the better the chances are that students continue to attend school. Overall, school absenteeism rates can decrease once more intervention programs are carried out in schools.

Evaluation of Intervention Programs

Another article titled “Handwashing Practices and Its Predictors Among Primary School Children in Damote Woide District, South Ethiopia: An Institution Based Cross-Sectional Study” (Admasie et al, 2022) discusses the results of a school-based cross-sectional study conducted in Damot Woide District, Wolaita Zone, Ethiopia. There are thirty-one primary schools and two high schools and, for the study, there were randomly selected students from fifth through eighth grade. There were 168 fifth graders, 174 sixth graders, 130 seventh graders, and 108 eighth graders. Of the 580 (n=580) students that were randomly selected from 6 schools equally and were asked seven questions regarding their handwashing practices. The questions included, “[have they] washed their hands in the last 12 hours? Usual handwashing time, Items used for handwashing, commonly used type of handwashing materials in the family, duration of washing their hands at a time, how often do you wash hands with soap before a meal? How often do you wash hands with soap after using the toilet?” (Admasie et al., 2022, p. 3).

The results showed that an eighth grade student, living in an urban area, having knowledgeable referents, and hand washing facilities in the school was a significant indicator of practicing correct hand washing skills. The overall results found that the larger proportion of students who were practicing proper hand hygiene was low. The variable results of this study showed that values of hand hygiene in the multivariate analysis were statistically significant ($p < .05$). The students that had access to proper hand washing facilities and resources were “significant factors for proper practice of handwashing” (Admasie et al., 2022, p. 9). The data showed that the older students were practicing better hand washing than fifth graders as well. Moreover, “students living in urban areas were 18.84 times more likely to practice proper handwashing practice compared to students living in a rural area (Admasie et al., 2022, p. 5). On

a different note, a strength of this study was having the ability to conduct the study in a school based setting, which allowed evaluation of both rural and urban school settings. Furthermore, another strength for this study was that the study included family demographics from different socioeconomic backgrounds allowing the reader to see the difference it makes with knowledgeable referents for handwashing and resources for proper hand hygiene. As these may be strengths in the study, this leads to a few limitations; purposeful school selections due to transportation deficits in the community, and self report of hand washing skills rather than anonymous evaluation, to name a few.

Furthermore, the prospective and descriptive study “Reasons for absenteeism in rural primary schools in two Colombian municipalities” (Vargus et al, 2020) reviews illness related school absenteeism in Anapoima and La Mesa, which are two municipalities from Cundinamarca, Colombia. 400 children from Anapoima and 548 students from La Mesa were included in the study (n=948). The data was collected through parental reports for means of student absences through a phone call from the school, and if the school did not collect information, the researchers would do a home visit. The results showed that “the most common reasons for absence were illness (24.4%)” (Vargus et al, 2020, p. 6). A limitation for the study was that illness was not based on medical confirmation. However, a strength was that this study was performed in primarily rural areas, whereas many of the other studies on illness related absenteeism is focused on urban areas in Colombia.

“The world population comprises 2.2 billion children below 18 years...and 270 million have no access to health services” (Kanyesige, 2021, p. 1). In Kanyesige’s descriptive research study “Influence of Children’s Health On Primary School Academic Performance In Africa. A Case Study of Fort Portal Municipality, Kabarole District, Uganda.” Kanyesige portrays three

randomly selected schools in the Kabarole district region. The overall sample included 109 (n=109) respondents, which included ninety- seven children, aged ten to nineteen years old, nine parents, and three teachers; however, there were an additional 17 key informants. Kanyesige used questionnaires to collect data from the respondents by using school visits. In addition, hour-long interviews were conducted with the head teachers and the parents were utilized for a focus group discussion revealing perspectives from parents about common health concerns. Many questions were used in the questionnaire and interviews, but some of the questions used were different kinds of sickness that affected their friends, whether sickness affected their performance, reasons for missing school and the attendance of children visiting the school nurse. Data from this experiment showed that common health issues concerning the academic performance of Fort- Portal Municipality, Kabarole district was cough and flu (57.7%). Further, the “study findings showed that the performance of [the] majority of the pupils (59.8%) had been affected by sickness” (Kanyesige, 2021, p. 12).

Limitations in this study were insufficient funding for the project, and lack of time. Kanyesige (2021) describes that these limitations were a reason why there was only one district used to represent Uganda. Moreover, the author details that incorrect answers on the survey were also a limitation on this study. A strength for this study was that there was an identification of the dusty areas that the children are commonly playing in. Overall, the study proved that “poor health affects academic performance”; therefore, it is vital to “address the health care needs of children ” (Kanyesige, 2021, p. 12).

Additionally, another article “Cause-specific student absenteeism monitoring in K-12 schools for detection of increased influenza activity in the surrounding community—Dane County, Wisconsin, 2014– 2020” (Temte et al, 2021) assesses school absenteeism in the attempt

to detect influenza activity in the community. This article was a descriptive study that reviews absenteeism rates within the community in Dane County, Wisconsin, with a total of 2,378 students during six influenza (flu) seasons (n=2,378). Symptoms that were used as data in this study were any of the following: presence of fever in addition to a respiratory tract symptoms such as cough, chest congestion, sore throat, scratchy throat, sneezing, runny nose, nasal discharge, nasal stuffiness, and nasal congestion. The design for this experiment had a flowchart that started with the reasons for absence by using an automated telephone absentee line. Next, the school attendance staff would enter the reason for absence into the school information system. Following would be anonymous data extraction through a set of processes within the system. Then, there would be automated daily data that would transfer into a secure site that would be used for data collection. The data collection would then be visualized, assessed, and analyzed by the research team.

The data collection shows “absenteeism within a school district mirrors MAI [medically attended influenza] in surrounding communities” (Temte et al, 2021, p.10). The study also concluded that cause-specific absentee monitoring in schools can assist in determining influenza outbreaks throughout the community. Ultimately, the study had many strengths. Firstly, there was outstanding participation from the community in addition to continuation of consistent reporting of absenteeism from the parents. Furthermore, the study was conducted over six years which enabled daily monitoring of absences to be compared to influenza seasons. In contrast, there were also many limitations. Two limitations in this study were, first, the route of reporting absences to the school was through a telephone absenteeism reporting system, so the parents had become accustomed to this process. This can lead to error from misinformation from the parents.

Another limitation was that the data can only represent absences on school days, so winter, summer, and spring breaks in the academic calendar posed a gap in the research.

Denbæk et al. (2018) examined the implementation of infectious illness interventions in schools. A random cluster-control study called the Hi-Five Intervention was used to analyze how effective the interventions were for school sickness. The intervention method aimed "...to develop, implement, and evaluate a sustainable and easily applicable multicomponent school-based intervention to reduce infectious illness days and episodes and to increase school well-being among school children in Denmark" (Denbæk et al., 2018, p. 513). There were 43 randomly picked schools in Denmark chosen for the study. The study's methods focus on how effective the Hi-Five study was on the number of sick days, sickness-related absenteeism in schools, and the improvements in hand hygiene. The Hi-Five Intervention Model consisted of "...curricular component, teacher reminder, time for extra hand wash, and available soap and drying remedies..."(Denbæk et al., 2018, p. 517).

Essential findings of the study include: high implementation rates increased the effectiveness of hand washing, and the intervention-related curriculum was the most effective in the study. A strength identified in the study would be the high response rate within the school. Lastly, a limitation of the study would be that teachers within the school had to mandate a time for mandatory hand washing on such short notice; this affected the study design because mandatory hand washing was incorporated into the intervention model. The study exhibits implementation and how it can affect the effectiveness of hand hygiene interventions.

Mohammed, Dalvandi, and Chakeri (2020) studied how practical educational lessons promote handwashing for third-grade students. Infectious disease prevention awareness needs to be improved in younger kids because they are unaware of how quickly germs can spread. For

example, the hands are a direct way to spread infectious diseases because kids tend to touch many of their surroundings and, eventually, their faces. The study focuses on 76 third-grade students in different elementary schools in the Tehran school district. Improving hand hygiene starts in the classroom because "...school has the second most important role in child health after their family" (Mohammed, Dalvandi, and Chakeri, 2020, pg. 1150). The study proposed an educational intervention program with various materials such as posters, lectures, videos, and more. Researchers designed the study by using "...non-randomized clinical trial with pre and post-test with the aim of investigating the effect of combined education on the quality of health, attitude, and awareness of 9-year-old children, having at least the literacy to read" (Mohammed, Dalvandi, and Chakeri, 2020, pg. 1150). The study results concluded with significant student changes after the educational intervention.

There was little change in the pre-test phase when looking at the control and intervention groups (Mohammed, Dalvandi, and Chakeri, 2020, pg. 1152). Results for the post-test showed that after the educational intervention was conducted, the students were more aware of hand hygiene. The researchers determined that "...the awareness of students can be enhanced through providing practical training with the aid of materials such as PowerPoint, instructional videos, pamphlets, and oral explanation" (Mohammed, Dalvandi, and Chakeri, 2020, p. 1153). The study finalized that educational interventions used in third grade classrooms can promote awareness of infection prevention.

Anderson and Romm (2020) conducted a quantitative study. The main focus of the study is to look at absenteeism in early elementary school students and how it can affect educational achievement. Also, it looks at how gender and socioeconomic status can impact absenteeism. The sample was randomized within an urban school district (N=854) (Anderson & Romm, 2020,

p. 179). Anderson and Romm found no significant difference between pre-K absenteeism and third-grade academic achievement. Also, the study determined that boys who attended pre-K had higher reading scores in the third grade (Anderson & Romm, 2020, p. 192). The p-value for boys attending pre-K and reading test scores was $< .001$. This p-value shows that higher reading scores were present when boys attended pre-K. Lastly, students from low socioeconomic status showed higher levels of achievement in third grade if they attended more school days in pre-K. The study determined that there was a gap between high and low-socioeconomic-status families. Anderson and Romm believe the gap could be lowered if more students were encouraged to attend school more often. One study limitation is the lack of "...access to the third-grade attendance data due to changes in the district's data management system" (Anderson & Romm, 2020, p. 193). The study focuses on different factors, such as school achievement, gender, and socioeconomic status, that can be influenced by school absenteeism.

Summary of Category II:

Many studies have shown that illness related absences are an issue in all parts of the world, and likely in your community as well. In this section, there was an evaluative process that looked at all of the interventions. The evaluation was based on how the interventions affected academic performance, absenteeism, and overall community health. It is important to recognize the different trends that illness related absences in schools can show the general population. Examples of this are academic deficits, community based influenza trends, infection precautions, and common knowledge about the most successful means of hand washing techniques.

Discussion

Throughout our research of the preceding studies, we discovered that our recognition of school sickness absenteeism as a problem in Marin City/ Mill Valley, California, is a worldwide

issue needing to be addressed. Our investigation demonstrated significance in many rural and urban communities. Many of these articles looked at sociodemographics, social determinants of health, and surrounding communities. This was important in leading us to look at all different populations with different socioeconomic statuses. Our literature review showed that no matter where in the world you live, in areas with some of the most successful schools, school sickness absenteeism is a problem. This issue needs to be addressed to support children's health and safety in the classroom from any possible infectious agents they may be exposed to in school and bring home to their communities, and vice versa. Overall, the review had strengths such as community participation, where limiting factors were mostly among limited resources and time from the researchers. Gaps identified in the current research were that there are studies being conducted proving that hand health interventions are found to be beneficial in reducing school sickness, yet it has not become evidence based practice in schools or at home.

Theoretical Framework

Florence Nightingale is the founder of modern nursing and Nightingale's environment theory supports our research question regarding the effects of hand hygiene in schools. Based on the background, Nightingale evaluated the correlation between patient deaths and the environmental conditions during the Crimean War. The basis of the theory is patient-care. One of the ten major concepts of the theory as identified by Nightingale is personal cleanliness. In relation to our research and proposal, personal cleanliness is the primary issue that we discovered in primary schools and how it relates to school absenteeism. This then leads to academic deficits and use of needed economic resources such as hospital and clinic visits. The theory relates and supports our further research which will be transposed in Marin City/ Sausalito with a variety of different socioeconomic statuses and family demographics.

Introduction to Proposal

As reported by the California Department of Education, during the 2021-2022 school year, there were about 16.6 days that students were absent in California (CA Dept of Education, 2021). In Marin county, there is a lack of infection prevention that can help decrease the time students are absent due to sickness. Students do not have the resources to help stop the spread of infection; therefore, rates continue to climb upward. There are barriers that play into students' awareness of infection prevention such as parents not having the time to educate their child on infectious illnesses, lack of implementation in the schools to practice prevention, and lack of education from a young age. Studying these barriers can identify the reason behind increased levels of absenteeism seen in schools and how schools can implement effective interventions to help increase consistent attendance. Using educational interventions for school absenteeism can help decrease the number of absences in schools and improve the awareness of infection prevention for students.

An educational intervention such as a curriculum that teaches infection prevention can help decrease school absenteeism rates. After reviewing the research articles, using an intervention model can help increase overall awareness and improve how students prevent themselves from getting sick.

Using a mixed method study can dictate what interventions would work in schools to help lessen school absenteeism rates. Specific interventions can be determined by utilizing a control and experimental group to see what happens to the students' illness rates once they are educated on how to prevent infectious illnesses. The research articles that were reviewed provide data that can be beneficial to the study and open up more opportunities to determine how

sickness rates can be decreased. Decreasing absenteeism rates leads to students being at school to enhance their learning abilities.

Research Question and Study Design

The research question for the proposal that is being addressed is does an educational intervention program on infectious precautions decrease absentee rates in schools?

The plan for our research study design is to evaluate Marin County schools located in different communities. The evaluation process will implement a hand hygiene program that would involve teaching the students proper techniques for hand washing. The education plan will also involve infection prevention, such as covering mouths when sneezing, or coughing into an elbow, in addition to hand sanitizer use. Further, the education program will also describe when hands should be washed through different media tools and posters that will be made with the students to enhance and encourage a learning environment for the students. The selected schools will have two groups in each grade level from kindergarten through fifth grade. There will be a control group, where they continue their normal hand washing regiment. The other group will be an intervention group that will have the education program implemented in their classroom with a two hour lesson. Their results will be evaluated by analyzing absentee data in the two different groups, recognizing if hand hygiene can affect absence rates within the schools. Based on the literature review, we hypothesize that we will have similar outcomes to the research done prior, and have results showing that illness related absenteeism can be decreased with proper infection prevention.

Ethical Protection

Our study will be implemented in the Marin County school districts due to the increase of sickness related absenteeism. Schools from both Marin City and Mill Valley will be the main

schools for the study. Our study will be approved by the Dominican University Internal Review Board, board members from each school district, the principals of each school, and the Marin County Office of Education. Once the sample is determined, written consent will be given to the students and their parents explaining the purpose of the study, the interventions that will be provided, and their child's name will not be disclosed during the study. The parents and their children can withdraw from the study at any time.

Description of the Sample

Our research review has led us to further investigate the specified schools in Marin County. Marin County is composed of over one hundred thirty schools. According to the US News and World Report (2022), Marin County is ranked number six on the list of "richest counties in the United States". The students are from many different socioeconomic statuses in this sample, where there are parts of Marin County with higher poverty rates than other parts of Marin County. For example Mill Valley, California, has a median household income of \$170,946 (Data USA 2020), whereas Marin City, California, has a median household income of \$54,150 (Data USA 2020). As we gather data, it will be important to recognize that the students will come from a variety of socioeconomic backgrounds, parents will necessarily have different levels of participation in their children's education and there will be additional variants of parental or guardian referents involvement.

Recruitment and Sample

We will recruit students in kindergarten through first-grade students. We wanted to target younger students due to the need for the knowledge given to these grade levels about infection prevention. Once the samples have been collected, the nursing students will explain the study,

the interventions utilized, the requirements each student must complete, and the teacher's responsibilities.

Each sample will be divided into a control and experimental group in each grade level. Each group will have twenty-two to twenty-four students per control and experimental group. The identified control groups will continue their infection prevention practices, whereas the experimental group will receive interventions such as a curriculum. Reviewing the peer-reviewed articles, the sample size we want to achieve from the reviewed research articles is obtainable because most studies focus on one to two grade levels.

Methodology

The study will consist of interventions such as a questionnaire, an education plan for infection prevention, a hand hygiene program that explains hand-washing tips, and posters for the students. The questionnaire will be given by nurses that will help conduct the study (Appendix B will list the questionnaire provided). For the education plan, the students will be taught different ways to prevent infection, such as covering their mouths when sneezing and coughing into their arms. Also, teaching them about using hand sanitizer and how it can help minimize the spread of germs can be helpful. Using small video clips for the education portion can also benefit students because kids will be more attentive. The students will be observed in the first three weeks of September, then in the last week they will receive the curriculum which will include a daily lesson with reinforcement posters for one week. Then, for the following October and November attendance rates will be observed. After the two months, we will re-assess the students using the questionnaire to evaluate their knowledge. Lastly, the posters that will be made for the students will be posted in specific areas such as bathrooms, cafeterias, and

classrooms. The posters will include reminders for when students wash their hands and the benefits of covering their mouths and nose when coughing and sneezing.

Nurses will come to all of the schools participating in the study and explain what the study will analyze. The goal that nurses want to implement is that the first way to decrease sickness-related absenteeism is to decrease the spread of infection. For the questionnaire, the nurses will be on campus when they are given to the students and will be available for any clarification on questions. Once the answers are collected, the nurses will analyze each answer and determine where awareness is lacking for infection prevention. The questionnaire will be the starting point for the data collection. Before the education plan and curriculum are provided, the intervention groups will be assessed for one month to observe their methods of infection prevention.

Nurses will gather and analyze the data provided by each school once the two months are up. Our questionnaire that we provided at the beginning will be implemented once more to see if there were any changes in their answers from the start of the analysis. Additionally, the data regarding absenteeism will be provided from the school's attendance records. The study will analyze if hand hygiene practices, educational programs, and posters can help increase a student's awareness of infection prevention, essentially decreasing sickness-related absenteeism.

Conclusion

Through the twelve research articles, we found that there is an importance of hand hygiene due to the consistent lack of knowledge from large groups of students in the different samples. Taking into consideration the different populations used from rural and urban areas in different parts of the world, there was a considerable number of students that did not practice proper hand hygiene. When we moved into our research design and study proposal, we combined

different methods used in the prior research studies to understand how those practices would reflect Marin County cities. As our proposal reflects, we are hypothesizing similar results in the cities within Marin.

Overall, based on the conclusions seen in prior studies, we have concluded that there is clinical significance in using interventions to improve hand hygiene in schools to decrease absentee rates and decrease communicable disease in the classroom. We further seek to make the change in Marin County schools to encourage surrounding communities to implement a similar regimen and assist in decreasing illness related absenteeism, but it starts with infection precautions and prevention. This proposal has the opportunity to be an impactful study because this issue has been identified in many different parts of the world, but very little is being done to prevent communicable diseases in schools.

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Mohammadi, M., Dalvandi, A., & Chakeri, A. (2020). A study of handwashing training effects on awareness, attitude, and handwashing skills of third grade elementary school students. *Journal of Family Medicine & Primary Care*, 9(2), 1149-1153. 10.4103/jfmpe.jfmpe_948_19

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Appendix A - Literature Review Table

Authors/Citation	Purpose/Objective of Study	Sample-Population of interest, sample size	Study Design	Study Methods	Major Finding(s)	Strengths	Limitations
Admasie, A., Guluma, A., & Fentaw, W. F. (2022). Handwashing Practices and Its Predictors Among Primary School Children in Damote Woide District, South Ethiopia: An Institution Based Cross-Sectional Study. <i>Environ Health Insights</i> , 16, 11786302221086795. 10.1177/11786302221086795	Assesses the level of handwashing practice, including before/ after meals and after using the restroom, and its relation to sickness in Damote Woide District (South Ethiopia)	6 schools with 580 total students (grades 5-8th)	School-based cross-sectional study	Interviewer-administered questionnaire w/ closed questions	297 participants recalled only washing their hands with soap if they look filthy or smell bad while the majority (509 students) knew hand washing helps prevent disease.	includes family demographics from different socioeconomic backgrounds allowing the reader to see the difference it makes with referents for handwashing and resources for proper hand hygiene	Only done in this portion of South Ethiopia, and study was focused on self-report rather than observation
Anderson, S., & Romm, K. (2020). Absenteeism across the Early Elementary Grades: The Role of Time, Gender, and Socioeconomic Status. <i>Elementary School Journal</i> , 121(2), 179-196. 10.1086/711053	The purpose of this study is to look how absenteeism is affected by gender and socioeconomic status of students in Pre-K and	The sample population of interest is students in pre-k through second grade in the Tulsa Public	The design of the study looks at attendance and how it affects the elementary student's achievement.	Data was taken from attendance records and characteristics of students that can affect their attendance records.	The findings in the study show that absenteeism affected long term effects of children, the study focused on the academic outcomes	Study includes data that overlooks different reasoning that can affect absenteeism and how the absent rates can affect a	Limitations that were seen in the study consisted of not being able to assign absenteeism, no access to third grade data, not being able to evaluate excused vs unexcused

	second grade.	Schools. The sample consisted of 854 students within the state pre-K program. Different races that participated in the study were African Americans, White, Hispanic, Native American. Both male and females were studied.	There are different latent growth curve models that look at the attendance records over time.	Ex: race, outcomes, covariates, etc.	rather than behavioral outcomes, and students in Pre-K that come from low-income households showed that the fewer days missed positively impacted their achievement in the third grade.	student's academic achievement.	absences, the study cannot identify the reasoning behind the student's absence, and the data is outdated (2006).
Azor-Martínez, E., Gonzalez-Jimenez, Y., Seijas-Vazquez, M. L., Cobos-Carrascosa, E., Santisteba	Evaluates the infection rates in schools with two groups where one uses hand sanitizer after using soap and	Children aged 4-12 years old at 5 state schools in Almeria (Spain)	Randomized, controlled open study	Collected from parent reports of reasons for absence and were asked to specify between upper	Use of hand sanitizer in addition to a hand hygiene program was found to help prevent infectious diseases in all 5	Accuracy from parent reports was reviewed by pediatricians evaluating medical records	The inability to continue tracking if a family moves, or new students joining the school and unable to participate. Students may also be

<p>n- Martínez, J., Martínez- López, J. M., Jimenez- Noguera, E., Galan- Requena, M. d. M., Garrido- Fernández , P., Strizzi, J. M., & Gimenez- Sanchez, F. (2014). The impact of common infections on school absenteeis m during an academic year. <i>American Journal of Infection Control</i>, 42(6), 632-637. 10.1016/j. ajic.2014. 02.017</p>	<p>water, while the other washed their hands with only soap and water</p>			<p>respirator y infections and GI symptom s or non- illness related.</p>	<p>schools</p>	<p>which was approved by the Ethical Review Board. If the medical records failed to approve the parental reports, they were then put into groups that were non- medical related and not used for data.</p>	<p>allergic to the alcohol base in hand sanitizers.</p>
<p>Cooper, E., Chen, G., Godsell, S.,</p>	<p>The study focuses on the E-bug, an</p>	<p>There were 10 primary schools</p>	<p>The study used a pretest and</p>	<p>The data was collected through a</p>	<p>After receiving the E-bug training,</p>	<p>Within the study, strengths that were</p>	<p>Limitations include computing consumption</p>

<p>Neville, Q. V., Thacker, A., Charlotte, V. E., & Demirjian, A. (2022). Improving infection prevention behaviours in schools: Feasibility study to measure the impact of educational resources. <i>Health Education Journal</i>, 81(7), 793-806. 10.1177/00178969221119933</p>	<p>educational resource to improve infection prevention of students in the UK.</p>	<p>being analyzed with 16 different measures using soap. There are two groups; the early group had 561 students and the late group had 601.</p>	<p>posttest design. The study is used to determine the effectiveness of the e-Bug program.</p>	<p>questionnaire. Answers started as true, false, or don't know and then eventually got converted to correct and incorrect. If there were no responses, it was counted as missing. Soap use was used as a variable that would be studied in different classrooms.</p>	<p>student results showed improvement towards prevent measures for respiratory hygiene than hand hygiene.</p>	<p>shown are the severity of the Hawthorne effect and that soap use could be analyzed throughout all the schools.</p>	<p>is difficult to analyze and the timing of handwashing was not assessed.</p>
<p>Brenda Kanyesige. (2021). Influence of Children's Health On Primary School Academic Performance In Uganda. A Case Study of Fort Portal Municipality, Kabarole District, Uganda. <i>Student</i>&#39;s</p>	<p>Evaluates academic performance in relation to absenteeism and what types of illness are predominantly in the</p>	<p>109 total: 97 children, 9 parents, 3 teachers from 3 different schools in Kabarole</p>	<p>Descriptive research design</p>	<p>Questionnaires as well as a supplemented interview guide (teachers) and focus group discussion guide</p>	<p>Cough, malaria, and the flu are the most common health problems affecting academic performance in this</p>	<p>Identification of the location of where children are playing (dusty areas)</p>	<p>Use of only one school district in the study, and incorrect answers given by the students</p>

<i>Journal of Health Research Africa</i> , 2(9)10.51168/sjhrf.2021.9.61	Kabarole school district in Uganda	e district		(parents)	district		
DeJonge, P. M., Pray, I. W., Gangnon, R., McCoy, K., Tomasallo, C., & Meiman, J. (2022). School District Prevention Policies and Risk of COVID-19 Among In-Person K-12 Educators, Wisconsin, 2021. <i>American Journal of Public Health</i> , 112(12), 1791-1799. 10.2105/ajph.2022.307095	The purpose of the study is to look at the COVID-19 rates in K-12 grade and the different prevention policies that were utilized throughout the district.	The data analyzes Wisconsin educators that taught in-person in grades K-12, the outcome of the COVID-19 cases, and the different prevention methods. 28 districts, 16,478 educators.	Design used was a cohort-study. The data was retrieved from Wisconsin and data from the state level.	Study method used different data sources that looked at the educators of K-12 grade, the COVID-19 rates, and the different types of prevention used in the schools.	The data was strictly looking at the semester of full in-person learning at the schools, emphasized the most important infection prevention method, and excluded teachers that had COVID within a 30 day period.	Strengths include building off of continued literature which included two groups for comparison and the data collected for the study came from a state and nation wide level. The data included: vaccination status, age of the teachers, community vaccination rates, weekly incidences of COVID-19 in the community, and student to	Limitations include the responses collected by the staff were at the beginning of a semester, the questions on the survey were broad, and lastly there was a chance that the selection could be biased.

						teacher ratio.	
Denbæk, A. M., Andersen, A., Bast, L. S., Bonnesen, C. T., Ersbøll, A. K., Due, P., & Johansen, A. (2018). Importance of implementation level when evaluating the effect of the Hi Five Intervention on infectious illness and illness-related absenteeism. <i>AJIC: American Journal of Infection Control</i> , 46(5), 512-519. 10.1016/j.ajic.2017.10.021	Analyzes implementation methods and how it can affect the overall effectiveness in hand hygiene interventions.	43 Danish schools were looked at and implemented the Hi-Five Method.	Random cluster-control study that looks at how effective implementation is on the number of days a student is absent, the absenteeism rate, and how well students wash their hands.	Study method used the intervention model that included curriculum and random handwashing times during the school day.	The data found that there was a significant relationship between implementation and the overall effectiveness of hand washing.	A strength of the study would be the amount of responses received from the schools.	A limitation of the study was the last minute notice of when to tell the students to wash their hands at random times of the day. Also, there were only two components that data was retrieved from: dose received which means if the child reported their participation in the intervention and the reach meaning the number of children in the classes that received the intervention.
Keck, P. C., Ynalvez, M. A., Gonzalez, H. F., & Castillo, K. D. (2013). School-Located Influenza Vaccination and Absenteeism Among Elementary School Students in a Hispanic Community.	Evaluates the results of students receiving vaccines and how it decreases absenteeism rates in elementary schools.	4,200 records were used for sampling. The schools were used as variables and compare	Quantitative research using school attendance and vaccination records.	Study method used 4,200 records for sampling such as school name, first and last	The data found that about 2,337 kids were unvaccinated and the highest rate of absenteeism occurred one week after the	Strengths of the study is obtaining data for two random influenza-free weeks, looking at the	Limitations to the study include not having the ability to obtain data in the study's databases from the school.

<p><i>Journal of School Nursing</i>, 29(4), 271-283. 10.1177/1059840513486008</p>		<p>d vaccination statuses. 14,278 students from 20 LISD elementary schools</p>		<p>names, ID number, grade level, gender, birth date, flu vaccination status, and the date of the vaccination.</p>	<p>peak time of flu season.</p>	<p>vaccination status, and looking at peak weeks of the flu.</p>	
<p>Lee, R. L. T., Leung, C., Tong, W. K., Chen, H., & Lee, P. H. (2015). Comparative efficacy of a simplified handwashing program for improvement in hand hygiene and reduction of school absenteeism among children with intellectual disability. <i>American Journal of Infection Control</i>, 43(9), 907-912. 10.1016/j.ajic.2015.03.023</p>	<p>Evaluates the relation between infectious diseases and school aged, developmentally delayed students and their absenteeism</p>	<p>2 special education schools with a student capacity of 200-250 students</p>	<p>Quasi-experimental design</p>	<p>with a pretest and posttest design and sustainability assessment, with a fluorescent stain test and photos taken before and after program implementation as a measure of handwashing quality at a 12-week interval with a</p>	<p>The 5- step hand hygiene technique is effective in preventing the spread of infectious diseases</p>	<p>Utilized a pre-test, post-test, and a sustainability assessment after using the 5 step hand washing intervention.</p>	<p>Only evaluated students with mild intellectual disability, not moderate or severe. The reasons for absenteeism were not specified in school records as well.</p>

				control group			
Mohammadi, M., Dalvandi, A., & Chakeri, A. (2020). A study of handwashing training effects on awareness, attitude, and handwashing skills of third grade elementary school students. <i>Journal of Family Medicine & Primary Care</i> , 9(2), 1149-1153. 10.4103/jfmipc.jfmipc_948_19	The study focuses on third grade students and how effective handwashing training is for the students.	76 students from the third grade from one district were utilized.	The study uses interventions and control groups.	There is a pretest and posttest for the study. A questionnaire was conducted to determine the awareness and attitude of the third grade students. Also, there was a checklist used for successful completion of handwashing.	After the post-test, the data showed that the training helped increase the awareness of the students. Looking at both pre-test and post-test, there was a big difference between both data sets because of the handwashing training.	Strengths that are seen within the study is that they tested the before and after results to see improvements in the students' awareness. The training was useful in increasing the awareness and showing that their attitude changes after being taught.	Limitations include the groups of students may not be able to participate due to missing the training, parents or children's may or may not continue due to not being satisfied, and stressful events that may take place during the program.
Munn, Z., Tufanaru, C., Lockwood, C., Stern, C., McAneny, H., Barker, T. H., & Munn, Z.	The study focuses on absenteeism related to illness in school settings. The focus of the study is to determine	Children from 2-18 years old were analyzed. The students also lived in urban	Randomized control trials and quasi-experimental design.	The data was collected from 2016, 2019, and 2020. Data looked at how hand-	The findings of the study state that rinse-free handwashing was beneficial in decreasing	Strengths include having a large population to obtain data from and having results	Weaknesses of the study are obtaining data from other studies on handwashing and absenteeism which required follow up

<p>(2020). Rinse-free hand wash for reducing absenteeism among preschool and school children. <i>Cochrane Database of Systematic Reviews</i>, 2020(4), CD012566. 10.1002/14651858.CD012566.pub2</p>	<p>how effective handwashing is and to figure out which form of hand-washing techniques and products are the best for reducing absenteeism.</p>	<p>and rural communities.</p>		<p>washing and rinse free hand-washing affected absenteeism.</p>	<p>absenteeism rates. For preschool and elementary students, a hand hygiene program could be beneficial for schools.</p>	<p>from different countries. Looking at different countries can see if hand hygiene programs could be beneficial to all kids in school.</p>	<p>from the authors of those studies.</p>
<p>Nandrup-Bus, I. (2009). Mandatory handwashing in elementary schools reduces absenteeism due to infectious illness among pupils: A pilot intervention study. <i>American Journal of Infection Control</i>, 37(10), 820-826. 10.1016/j.ajic.2009.06.012</p>	<p>The study looked at two schools with students from the ages of 5 to 15 years old. The study was designed to interview students that were absent and would interview them about</p>	<p>School A had 294 students and school B had 366 students.</p>	<p>The study used two groups and assessed their data by using questionnaires, providing hand-wash teachings, and would compare the absence rates between</p>	<p>There was a baseline assessment that determined the reasoning behind absences and to analyze how well the students practice handwashing during school.</p>	<p>Results concluded that the handwashing programs were beneficial for the pupils that had the highest rate of absenteeism. Also, girls showed an improvement in absent rates compared</p>	<p>Strengths of the study include different groups/pupils to compare data to. Pupils were broken up and were easily identified through the data tables.</p>	<p>Limitations in the study include the data was self-reported.</p>

	why they were absent. It also looked at the outcomes after receiving hand-washing training.		each school.		to boys.		
Sandora, T. J., Shih, M., & Goldmann, D. A. (2008). Reducing Absenteeism From Gastrointestinal and Respiratory Illness in Elementary School Students: A Randomized, Controlled Trial of an Infection-Control Intervention. <i>Pediatrics (Evanston)</i> , 121(6), e1555-e1562. 10.1542/peds.2007-2597	The study focuses on how different interventions like hand sanitizer and surface disinfectant are used to decrease absenteeism for elementary school students.	285 students were studied within one elementary school. Third through fifth grade students were analyzed. Study took place for 8 weeks.	The study used interventions that were used to promote healthy habits for the classrooms and the students. The groups were considered a "cluster randomization".	The study randomized classrooms as intervention classrooms or the control groups of the study. Within the intervention classroom, there were different interventions that promote prevention towards illnesses.	The study used interventions such as hand sanitizer and a quaternary ammonium wipes used to clean the classrooms. The classrooms that were used as the control followed practices that were healthy and followed proper hand-washing techniques.	Strengths of the study include providing different interventions that teachers can use in different classrooms and comparing it to classrooms that were used as the control.	Limitations such as not being able to confirm the contributions that hand washing and surface cleaners have on absenteeism. There were also no diagnostic tests used for the children that were ill, only observed data can help clarify the study. Lastly, it was studied in one school rather than multiple schools.
Sandra Lucía Vargas, María Inés Matiz, Victor, A. O., Diana Sarmiento-Senior, Juan, F. J.,	Evaluated the many reasons including illness and why there	948 school children and adolescents	A prospective and descriptive study	Absences were recorded and then a group of project	Illness and absenteeism rates were highest among	Identified that school absenteeism is an initial	Symptoms The data was based on parents or guardians reports rather

<p>Alexander, N., Lenhart, A., Thor Axel Stenström, & Hans, J. O. (2020a). Reasons for absenteeism in rural primary schools in two Colombian municipalities. <i>Revista Salud Bosque</i>, 10(1)10.18270/rsb.v10i1.3030</p>	<p>is absenteeism in two rural Colombian primary schools</p>			<p>assistance would call the parent at home and question about symptoms to deem if the absence would be included in the study</p>	<p>children under 6 years and the main reason for absences were from sickness.</p>	<p>symptom for future drop out, so it identified the prevalence for why it is important go avoid sickness in schools</p>	<p>than a medical doctor</p>
<p>Temte, J. L., Barlow, S., Goss, M., Temte, E. L., Schemmel, A., Bell, C., Reisdorf, E., Shult, P., Wedig, M., Haupt, T., Conway, J. H., Gangnon, R., & Uzicanin, A. (2021). <i>Cause-specific student absenteeism monitoring in K-12 schools for detection of increased influenza activity in the surrounding community - Dane County, Wisconsin, 2014-2020</i>. Cold Spring Harbor Laboratory. 10.1101/2021.05.26.21257819</p>	<p>K-12 absenteeism monitoring in the attempt to detect influenza activity in the community</p>	<p>K-12 students in Dane County, WI total of 2,378 students in 6 flu seasons</p>	<p>A descriptive study that looks at absenteeism rates within the community</p>	<p>Independent and long-standing influenza surveillance system used to assess MAI (medically attended lab-confirmed influenza</p>	<p>“cause-specific absenteeism monitoring in K-12 schools identified community influenza outbreaks with high reliability across six distinct and diverse influenza seasons.”</p>	<p>Ability to use RT-PCR at home testing, longitudinal multi-year study as well.</p>	<p>No data between March 2020 - June 2020 due to COVID-19. Moreover, the school district is considered more affluent, less diverse, and better educated than the US average. Absenteeism is also only able to be monitored while school is in session.</p>

Questionnaire

1. How long should you wash your hands for?
2. Why do you cover your mouth and nose when coughing or sneezing?
3. Do you know what germs are?
4. What is the quickest way to get sick?
5. What is hand sanitizer?
6. Please write down the correct order of washing your hands: