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One University's COVID-19 Pandemic Mitigation Response and Anxiety Construct:

A Summative Program Evaluation

Ann Hodgin

School of Nursing, Duquesne University

Approved:

Mary C. Loughran, DNP, RN, MHA

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Abstract

The effects of the COVID-19 pandemic continue to ripple through everyday life. In December 2019, an outbreak occurred in China. Subsequently, the World Health Organization identified SARS-CoV-2 as a new type of coronavirus that quickly spread around the globe (Nazario, 2022). As of May 31, 2023, there were 6,938,353 confirmed deaths worldwide from COVID-19 (WHO, 2023).

A needs assessment completed by the University identified that a program evaluation of the university's COVID-19 response was warranted. Therefore, this program evaluation was conducted to assess the effectiveness of the policies and protocols implemented at a Catholic University in Southwestern Pennsylvania to mitigate the spread of COVID-19 on the college campus while educating nursing students during this unpredictable time. In addition, the project evaluated the anxiety produced by the pandemic on nursing students, faculty, and staff.

The findings from the data confirm that anxiety was an issue that faced nursing students, faculty, and staff. The policies and protocols that were implemented were successful in mitigating the spread of COVID-19 on campus. Additionally, the program evaluation validated the importance of new roles instituted at the University, the Chief Pandemic Officer (CPO), Emergency Preparedness Committee (EPC), and Emergency Response Team (ERT), and their involvement in implementing successful mitigation strategies.

Keywords: COVID-19, policies, SARS-CoV-2, college, university, mitigation, quarantine, isolation, COVID-19 PCR (polymerase chain reaction), nursing students, nursing faculty, nursing staff, pandemic anxiety, and higher education.

One University's COVID-19 Pandemic Mitigation Response and Anxiety Construct: A Summative DNP Program Evaluation

The effects of the COVID-19 pandemic continue to ripple through everyday life. In December 2019, an outbreak occurred in China. Subsequently, the World Health Organization identified SARS-CoV-2 as a new type of coronavirus that quickly spread around the globe (Nazario, 2022). One casualty of the COVID-19 pandemic is the subsequent nursing shortage. The Hospital and Healthcare Association of Pennsylvania (HHAP) estimates that one in four nursing positions remains vacant, and the nursing shortages continue to increase (HHAP, 2022). The most recent projections state that the national nursing shortage could reach 450,000 by 2025 (Chung, 2022). The shortage statistics are higher for advanced degree nurses across Pennsylvania and the country. The following statistics represent vacancies in the field: 32% for Master of Science in Nursing (MSN), 30% for Certified Registered Nurse Practitioners (CRNP), and 8.8% for nursing educators (AACN, 2022; HHAP, 2022). Another alarming figure is the pandemic's impact on secondary education. Colleges and universities estimate a $183 billion revenue loss (Friga, 2022). The AACN report for 2021-2022 states that 91,938 qualified applicants could not be admitted to baccalaureate or graduate programs due to the nursing faculty shortage (AACN, 2022). According to the American Association of Colleges of Nursing (AACN), faculty nursing shortages across the country continue to limit student capacity at a critical time when the need for registered professional nurses grows (2022).

At the time of this manuscript, the Department of Health and Human Services (HHS) plans to lift the federal Public Health Emergency (PHE) for the COVID-19 pandemic at the end of the day on May 11, 2023 (Assistant Secretary for Public Affairs, 2023). As of May 31, 2023, there are 6,938,353 confirmed deaths worldwide from COVID-19 (WHO, 2023). The pandemic

has lasted over three years. There are continued improvements with vaccination and medication, and the continued mutations of the SARS-CoV-2 virus have lessened in severity, decreasing mortality and morbidity. Mitigation strategies included closing schools, businesses, restaurants, and bars. Sports, activities of all kinds, movies, concerts, and theatre were all canceled to maintain social distancing and isolation in place. Virtual learning became the mainstay of higher education until, slowly, the United States began to re-open. The United States has resumed life in a new state of normalcy.

Colleges and universities needed to follow strict guidelines while maintaining quality education. In early 2020, higher education institutions scrambled to create policies and procedures aligned with government mandates to mitigate the spread of COVID-19 and remain open. Hybrid learning in place of many in-person classes continued. The ease of COVID-19 viral transmission necessitated the formation of COVID-19 task forces to monitor and implement their policies and procedures. Nursing students, faculty, and staff struggled with anxiety related to the pandemic's unknown future. Nursing students were prohibited from being in hospitals at the onset of the pandemic and were mandated to participate in virtual clinical from May 2020 through August 2020. The nursing faculty faced an unprecedented challenge. The creativity engineered by the nursing faculty was innovative and practical but remained drastically different from the clinical experiences of nursing students on a hospital unit.

The University's Chief Pandemic Officer (CPO) and the task force were critical to the University remaining open during the pandemic. Allowing students, faculty, and staff to return to in-person classes safely was instrumental to the success of the re-opening in the fall of 2020. The CPO and task force created a plan for social distancing, mask-wearing, isolation, quarantine, contact tracing, and safety protocols for exposure. The research University does not have an

official student health department, so creating resources for medical evaluations, COVID-19 testing, and protocols for infected students living on campus became necessary.

A needs assessment completed by the University identified that a program evaluation of the University's COVID-19 response was warranted. Therefore, this program evaluation assesses the effectiveness of the policies and protocols implemented at a Catholic University in Southwestern Pennsylvania to mitigate the spread of COVID-19 on the college campus and to evaluate the anxiety produced by the pandemic on nursing students, faculty, and staff. The strengths, weaknesses, and recommendations for improvement of the implemented policies and protocols will be identified.

Literature Review

Johns Hopkins Evidence-Based Practice for Nurses and Healthcare Professionals Model & Guidelines (Dang et al., 2022) was the framework utilized to evaluate the research from an electronic literature search. Relevant literature searches included *Google Scholar*, Duquesne University's Online Gumberg Library to access *CINAHL, PubMed,* and *ScienceDirect* databases and expert opinion retrieved from the Centers for Disease Control (CDC) and the Allegheny County Health Department (ACHD). Key search terms were COVID-19, policies, SARS-CoV-2, college, university, mitigation, quarantine, isolation, COVID-19 PCR (polymerase chain reaction), nursing students, nursing faculty, nursing staff, pandemic anxiety, and higher education. Identification of thirty-two relevant research articles resulted. Twenty-three of the thirty-two articles proved applicable. The quality determination of nineteen articles is ranked as good. Eighteen articles were rated at Level III, and one was a Level V. Four articles were rated at Level IV. COVID-19 pandemic information continues to evolve, explaining why Level I and II research articles were not found.

Literature Synthesis

Institutions of Higher Education (IHEs) Preparedness

Pandemic research continues to unfold. However, due to the novel nature of the SARS-CoV-2 virus, information remains limited. The most important lessons learned regarding mitigation strategies for COVID-19 management were early detection, diagnosis, quarantine, and treatment (Liu et al., 2020). The American College Health Association (ACHA) developed guidelines for IHEs throughout the pandemic from March 2020 through August 15, 2022. The most recent Fall 2022. Guidelines revolved around COVID-19 vaccinations as a critical campus response while delineating between international and national vaccination administration vs. natural infection (ACHA, 2022). In addition, personal protective equipment (PPE), social distancing, indoor air quality, testing/surveillance, isolation accommodations, treatment/prophylaxis, mental health, long COVID, and travel considerations were discussed (ACHA, 2022). The importance of transparent communication by forming COVID task forces and local public health partnerships became imperative. For example, this University allied with a local urgent care center and community hospital due to a lack of a student health services center (SHSC).

IHEs relied upon federal, state, and local public health agencies to guide COVID-19 pandemic management strategies. The recommended policies were broad to fit IHEs' size, location, and demographics. The CDC, Pennsylvania Health Department (PHD), and the ACHD were instrumental in implementing mitigation strategies. The CDC created guidance for IHEs, which was last updated on July 23, 2021. The CDC Foundation (2023) utilized the Sara Alert system, an automated contact tracing system for private, local, state, and federal reporting of COVID-19-positive cases to aid with report and contact tracing. Sara Alert was beneficial during

the height of the pandemic (CDC Foundation, 2023). The PA System of Higher Education (2021) monitored and provided guidance for all state universities, while the PHD monitored state COVID-19 pandemic demographics. The ACHD provided local guidance and information for COVID-19 management.

Evaluation research of the IHE's management of mitigation efforts during the COVID-19 pandemic continues to emerge. Two comparative research studies evaluated the mitigation strategies during two different outbreaks of mumps and meningococcal (Bharti et al., 2020; Candrilli & Kurosky, 2021). The first is a qualitative study of the medical responses for cases of two separate meningococcal outbreaks in 2015 and 2016 from two recent university outbreaks in Oregon (Candrilli & Kurosky, 2019). The researchers created a conceptual framework of implemented procedures at the universities, finding that the estimated economic burden was $12.3 million to manage the outbreaks. Candrilli & Kurosky (2019) reviewed data regarding testing, vaccination, isolation, quarantine, and contact tracing, including the implemented procedures' cost. The second mixed-methods study reviewed a mumps outbreak at Pennsylvania State University, where eighty-four students were positive in 2017 and thirty-two students in 2018 (Bharti et al., 2020). Both articles reviewed the universities' mitigation strategies that followed CDC guidelines which effectively managed disease spread. The CDC guidelines regarding disease transmission, testing, contact tracing, vaccination, quarantine, and isolation were implemented. Three research studies observed the policies and procedures implemented at universities during the COVID-19 pandemic (Baskak et al., 2022; Fox et al., 2021; and Hamer et al., 2021). Fox et al. (2021) and Hamer et al. (2021) were done at universities in the United States, while Baskak et al. (2022) was completed in Turkey. A program evaluation reviewed the policies and procedures at a Southwestern Pennsylvania university that followed CDC, state, and

local guidelines with successful mitigation results during the COVID-19 pandemic (Dougherty, 2021).

In comparison, the three research studies done in America followed the CDC, state and local health guidelines to implement their mitigation policies and procedures. The Turkish research followed the Turkish Standards Institute checklist; however, all four of these studies followed similar guidelines with positive effects on SARs-CoV-2 transmission, allowing the goal to resume in-person campus classes. The similar CDC key prevention strategies include vaccination, consistent and correct use of masks, physical distancing (minimum six feet), handwashing, contact tracing in combination with isolation and quarantine, testing for COVID-19, maintaining healthy environments (increased ventilation and cleaning), maintaining healthy operations (communications, supportive policies, and health equity) (CDC, 2021). Another qualitative study noted the importance of including university students' concerns regarding their experiences during the pandemic (Teti et al., 2022). The students were mainly concerned about COVID-19, educational quality, and constantly changing information. They interviewed thirty-three demographically diverse students. The results demonstrated that health campaigns are more effective when directed at the relational, individual, public, and strategic processes to address diseases like COVID-19. Teti et al. (2022) recommends ongoing health campaigns that address the concerns.

Anxiety Produced on University Students, Faculty, and Staff

University students, faculty, and staff continue to face the challenge of anxiety related to the pandemic. According to Son et al. (2020), 195 students interviewed using qualitative and quantitative methods revealed that 71% experienced increased anxiety and stress. Hoyt et al. (2020) found similar results in their study that enrolled 707 students across America via

Instagram, revealing moderate anxiety on average. During the COVID-19 outbreak, “nursing faculty need to understand threats to student success during this unprecedented period in nursing education” (Gaffney et al., 2021, p. 78). Kaplan et al. (2020) used a descriptive cross-sectional study with 344 nursing student participants at a state university. They found that 36.9% of participants experienced mild anxiety (Kaplan et al., 2020). Fitzgerald & Konrad (2021) used a descriptive web-based survey that fifty nursing students in Long Beach, CA completed showing 84% reporting feeling overwhelmed or anxious. Köktürk et al. (2021) found that nursing students suffered moderate anxiety in a Turkish nursing school. Masha’al et al. (2022) used a cross-sectional study on 282 Jordanian nursing students finding that 70.6% faced mild to severe anxiety levels related to the COVID-19 pandemic. In Israel, Savitsky et al. (2020) reported 244 university nursing students reported a prevalence of 42.8% experiencing moderate anxiety and 13.1% facing severe anxiety. Finally, Joseph et al. (2022) stated that increased anxiety and other factors contribute to the development of post-traumatic stress disorder (PTSD) due to the pandemic.

Research into nursing faculty experiences during the pandemic returned two relevant articles for this program evaluation. Sacco & Kelly (2021) performed a descriptive, quantitative study of 112 nursing faculty from the northeast and reported that the pandemic negatively impacted 73.1% of respondents. Most of the respondents stated that their negative experiences related to overall well-being. Sessions et al. (2022) noted that “during the pandemic, nursing faculty struggled with stress and anxiety (p. 478).” The two articles were limited in their discussion of nursing faculty anxiety.

Program Theory for Evaluation

The University implemented policies and procedures to navigate the COVID-19 pandemic while providing education to nursing students at a highly volatile time. The socio-technical model of the Actor-Network Theory (ANT) for studying information technology's complex fluidity is perfect for this program evaluation. The ANT is an excellent format for this evaluation because "researchers using ANT are interested in connections between humans and non-humans because they subscribe to the notion that everything that exists in the world is the outcome of an interaction between two or more human and non-human entities" (Desai et al., 2017, p. 135). The human and non-human components are actants, and their relationships create actor networks (Frimpong et al., 2022). Actants are valued by how they interact in the system by defining whether they are intermediaries or mediators (Latour, 2017). Intermediaries are actants that do not impact the overall network, for example, the power lines that come into an organization (Latour, 2017). Intermediaries keep the network system functioning but do not change. Mediators are actants that impact the network and cause change (Latour, 2017). Mediators may have a positive impact that changes into a negative impact. A network is a group of interconnected elements that affect each other (Latour, 2017). *Traffic* is the actions and communications that affect the network that needs initiation to promote system efficiency to achieve the goals for which it was designed (Latour, 2017). In analyzing how this University navigated between the actors and actants, the program evaluator (PE) used ANT because "ANT has provided a way to understand the interactions apparent in sociotechnical networks and how they generate support and sustain innovations in public health interventions" (Frimpong et al., 2022, p. 6).

This program evaluation utilizes the lens of the ANT model to visualize the impact of technology on the effectiveness of the policies and protocols placed at this University to mitigate the spread of COVID-19 on the college campus. In addition, this evaluation includes an analysis of the anxiety produced by the pandemic on nursing students and nursing faculty. The human actors or actants in the program analysis are the PE; students, faculty, and staff of the nursing program; University students, faculty, staff; CPO; mentors; external experts; the IT (Information Technology) department; and the personal experiences producing anxiety related to the COVID-19 pandemic of all those involved. The non-human actors or actants are the SARS-CoV-2 virus, the power lines in the University that permit virtual communication, COVID-19 pandemic policies and procedures, external expert organizations like the CDC, University IT format for reporting COVID-19 cases, and University pandemic communication protocols. All the actors or actants mentioned above are mediators. The intermediaries are the power lines that allow the university's technology to function. *Translation* is the process that allows a network to be represented as a single entity or network (Latour, 2017). In this program evaluation, the translation processes are the policies and procedures used to guide and continue to guide the pandemic protocols at this University by utilizing the technological component to provide effective communication and direction to the faculty, staff, and students.

Using the ANT model, the interactions between technology and humans portray positive and negative attributes. The ANT model allows for a lens to view the relationship between the actants to ascertain the communication patterns that were effective and ineffective during the continued navigation of the COVID-19 pandemic at this University. The use of technology to disseminate information to students, staff, and faculty during the pandemic was valuable. However, the information was in constant flux, which made it difficult for students, faculty, and

staff to navigate. Another negative attribute of the ANT model is that social factors like race and social status are not given value. This attribute could impact this program evaluation because of the high population of international students from various cultural and socio-economic backgrounds.

The ANT model provides a practical framework to discern the relationships between the actants and ascertain the communication patterns that were effective and ineffective during the continued navigation of the COVID-19 pandemic at this University. The sociotechnical framework is helpful as the program evaluation unfolds since it promotes equitable distribution of roles among all actants and proactively impacts the PE's leadership role in completing the program evaluation.

Frameworks, Models, Concepts, & Theories

The W.K. Kellogg Foundation Guidelines (WKKF) for program evaluation were chosen for this project. This approach to program evaluation is constructive for managing the strategic development and impact of the program (WKKF, 2017). Program evaluations can identify strengths, opportunities, and recommendations for improvement regarding a program for continuous improvement efforts. Stakeholders were identified, and a logic model (see Appendix A) was created, which will be discussed in more detail below.

Description of Project

This program evaluation aims to assess the effectiveness of the policies and protocols implemented at a Catholic University in Southwestern Pennsylvania to mitigate the spread of COVID-19 on the college campus and evaluate the anxiety produced by the pandemic on nursing students, faculty, and staff. The aims and objectives of the project were developed.

Aims and Objectives

The following aims and objectives were identified for this program evaluation.

Aim #1 Evaluate the effectiveness of the policies and protocols in mitigating the spread of COVID-19 on the college campus.

Objective:

1:1: Review the policies and protocols established to mitigate the spread of COVID-19, including:

- Daily monitoring of COVID-19-positive cases
- Daily monitoring of contact tracing
- Daily monitoring of isolation and quarantine rooms

Aim #2 Identify the level of anxiety produced by the COVID-19 pandemic on nursing staff and faculty.

Objectives:

2.1: Nursing faculty will complete the CAS (Coronavirus Anxiety Scale) questionnaire via SurveyMonkey by email to determine the impact of their anxiety levels related to the COVID-19 pandemic (Lee, 2020).

2.2: Nursing staff will complete the CAS questionnaire via SurveyMonkey by email to determine the impact of their anxiety levels related to the COVID-19 pandemic (Lee, 2020).

Aim #3 Identify the level of anxiety produced by the COVID-19 pandemic on nursing students.

Objective:

3.1: Nursing students will complete the CAS questionnaire via SurveyMonkey by email to determine the impact of their anxiety levels related to the COVID-19 pandemic (Lee, 2020).

Aim #4 Complete a summative program evaluation of the COVID-19 policies and procedures utilized to mitigate the spread of COVID-19 on the University campus.

Objectives:

4.1: Identify the strengths and weaknesses along with recommendations for improvement on the COVID-19 policies and procedures utilized to mitigate the spread of COVID-19 on the University campus.

4.2: Present COVID-19 policies and procedures program evaluation to the University Chief Pandemic Officer by June 30, 2023, identifying strengths and weaknesses along with recommendations for improvement and identifying the anxiety created for the nursing faculty, staff, and students.

Aim #5 Create a University Policy and Procedure Manual for effectively managing diseases requiring isolation and quarantine by the end of program evaluation, which will be available online and in hard copy.

Objectives:

5.1: Compile successful policies and procedures utilized during the COVID-19 pandemic to effectively mitigate the spread of COVID-19 that followed the CDC and the Allegheny Health Department Guidelines.

5.2: Identify necessary changes to existing COVID-19 policies and gaps in policies and procedures that need development for a future pandemic or pandemic-like situation according to the CDC and Allegheny Health Department Guidelines.

Overview of Methodology

Program Evaluation

A summative program evaluation using a systems-oriented approach with Outcome Mapping was utilized (W.K. Kellogg Foundation, 2017). The logic model in Appendix A is critical to the program evaluation. The inputs for the logic model are the stakeholders, which include the nursing students, faculty, and staff. Other stakeholders are University Associate Provost/Academic Dean/Chief Pandemic Officer (CPO) and the University Acting President/University Provost. The entire University student body, faculty, and staff benefit from the program evaluation. The stakeholders were instrumental and engaged in identifying desired information to be answered in the program evaluation, which included:

1. Did the policies, procedures, and protocols used by following guidelines suggested by the CDC, PHD, and ACHD mitigate the spread of the COVID-19 virus on the University campus?
2. Did the policies, procedures, and protocols regarding isolation and quarantine mitigate the COVID-19 virus transmission on the University Campus?
3. What weaknesses and strengths did the program evaluation identify?

4. What recommendations for improvement are implementable in the future?
5. Was anxiety a relevant issue for the nursing students, faculty, and staff during the COVID-19 Pandemic?

The planned activities noted in the logic model include a review of the isolation, quarantine, contact tracing, healthcare referrals, and COVID-19 testing. Other activities include distributing the Coronavirus Anxiety Scale (CAS) survey (see Appendix B) and four qualitative questions/prompts addressing the anxiety produced by the COVID-19 pandemic on the University's nursing students, faculty, and staff through SurveyMonkey. Short-term, intermediate, and long-term outcomes include successfully mitigating the SARS-CoV-2 virus on the University campus to allow the campus to remain open.

Setting & Population

The setting for this program evaluation is a small Catholic University in Southwestern Pennsylvania. The University averages approximately 1,245 (2021) enrolled students combined with graduate and undergraduate departments (U.S. News & World Report, 2023). There were approximately 185 international students in 2021. The Department of Nursing has approximately 160 full-time Entry Level Master of Science in Nursing (ELMSN) nursing students in graduate nursing school. The Department of Nursing employs eleven full-time faculty, fifty-two part-time adjunct faculty, and two full-time staff members. The University employs 613 faculty and staff members, including full and part-time faculty and staff. The Emergency Preparedness Committee (EPC) has six faculty and staff members: the Chief Pandemic Officer, the Director of the Nursing Department, Facilities Management, and administrative members of Student Life.

Implementation

This program evaluation was conducted from February 14, 2022, to June 3, 2023 on the University campus. The EPC developed the COVID-19 University Health & Safety Plan (UHSP) by implementing policies, procedures, and protocols based on federal, state, and local guidelines. The University was closed to in-person learning from March 10, 2020, through August 2020. The University moved to an online virtual learning format for the spring and summer semesters. The cycle of Plan, Do, Study, Act (PDSA) would continue by the CPO and the EPC until the present time as the information and recommendations evolve.

The University re-opened on August 24, 2020, and remained open during the entire fall semester, which ended on November 24, 2020. Students in certain majors continued to have the option of remote or hybrid learning. However, the ELMSN program began in-person classes and clinicals at the hospitals. Faculty, staff, and students who returned to the University were required to answer a daily COVID-19 health screen and have their temperature taken upon entry. Once the individual passed their screening, a paper bracelet was given for the day. Each day the color of the bracelet would change. The daily screening asked: Have you experienced any of the following symptoms in the last 48 hours?

1. Are you feeling sick?
2. Do you have a temperature (measured by a thermometer) greater than 100.4 degrees Fahrenheit?
3. Do you have a headache?
4. Do you have a sore throat?
5. Have you lost your sense of taste or smell?
6. Do you have a cough?

7. Are you experiencing any shortness of breath?
8. Do you have a runny nose or congestion?
9. Are you experiencing any nausea, vomiting, or diarrhea?
10. Do you have any muscle/body aches or fatigue?

If faculty or staff answered ‘yes’ to any questions or had a temperature, they would not be permitted access to the University. They would be asked to contact their healthcare provider for a consult. If students answered ‘yes’ to any question or had a temperature, they would not be granted access to the University and be referred to their healthcare provider, local urgent care center, or local community hospital. If faculty, staff, or commuter students were ill, they were asked to remain home, isolate, and have PCR testing for the SARS-CoV-2 virus. If resident students were ill, they would enter isolation, follow the guidelines found in the UHSP, and be tested for COVID-19. Isolation was ten days from the date of symptom onset. If a resident student were exposed to someone who had COVID-19 but was asymptomatic, they would be placed in quarantine for ten days from the last date of exposure. Exposure was defined as being within six feet of a patient with confirmed COVID-19 for at least 15 minutes, with or without a mask. The students, faculty, and staff reported all COVID-19 positive tests to the CPO.

The University implemented social distancing (at least six feet apart) in the classroom and throughout the campus. Plexiglas dividers were strategically placed throughout the University. Masks (cloth or surgical) were always required indoors. Hand sanitizer was placed in easy-access locations. Anti-bacterial wipes were available in all classrooms, and each of the classroom tables, chairs, and doorknobs were wiped down after every use by faculty, students, and housekeeping.

The EPC created an Emergency Response Team (ERT) that coordinated with local health officials to determine the course of action for confirmed COVID-19 cases. The ERT aided in coordinating meals, trash retrieval, laundry, and supply delivery for students confined to isolation or quarantine on campus. There were designated areas for isolation and quarantine. The CPO and ERT did implement on-campus testing for athletes as they needed to be tested before every game. The University incurred the cost of a medical refrigerator and testing supplies. The University had to become a certified lab to test the student-athletes.

As COVID-19 vaccination became available in early 2021, the University requested that all employees, staff, and students be fully vaccinated with either two Messenger RNA (mRNA) vaccines or one Johnson & Johnson/Janssen viral vector vaccine. Vaccine cards were uploaded to the CPO. To live on campus, a student needed to be fully vaccinated. A medical exemption was permitted with a letter from the provider for students, faculty, and staff. Religious and medical exemptions were both permitted.

The University Health & Safety Plan was updated as the information changed from federal, state, and local health authorities. The mask mandate was lifted as of March 19, 2022, but remained optional if persons desired to wear a mask. The last update was completed on August 11, 2022, before the fall 2022 semester started. All student-athletes and resident students were required to be fully vaccinated, defined by the CDC as two mRNA, two viral vector vaccines, or one viral vector plus one mRNA vaccine (CDC, 2023). Medical, religious, and ethical exemptions continued to be accepted, and resident students and student-athletes needed to submit their vaccine exemption requests in writing before the start of the semester. All students, faculty, and staff must notify the CPO of positive COVID-19 cases. COVID-19 vaccination cards were required to be uploaded to the CPO by students, faculty, and staff, and the PCR test

was required as confirmation due to the rapid test failure, especially with the self-administered rapid COVID-19 tests. The ERT continued to monitor campus COVID-19 cases and coordinate with local officials during this pandemic.

The other aspect of this program evaluation was to assess the anxiety created by the pandemic for nursing students, faculty, and staff. In two separate questionnaires, the Coronavirus Anxiety Scale (CAS) and four qualitative prompts were placed on SurveyMonkey from February 21, 2023, through June 5, 2023. The four qualitative prompts for the nursing students on SurveyMonkey were:

1. Please describe your anxiety about your nursing education during the COVID-19 pandemic.
2. Please give feedback on how the nursing department or university could have helped your experienced anxiety during the COVID-19 pandemic.
3. Please describe your personal experience with the COVID-19 pandemic.
4. Please describe any positive changes the university and/or nursing department implemented during the COVID-19 pandemic that helped decrease experienced anxiety.

The four qualitative prompts placed on SurveyMonkey for the nursing faculty and staff were:

1. Please describe your anxiety produced during the COVID-19 pandemic as relating to the implementation of nursing education clinically or through the virtual classroom experience.
2. Please give feedback on how the nursing department or university could have helped decrease your experienced anxiety during the COVID-19 pandemic.
3. Please describe your personal experience during the COVID-19 pandemic.
4. Please describe any positive changes the university and/or nursing department implemented during the COVID-19 pandemic that helped decrease experienced anxiety.

The CAS (see Appendix B) was placed on SurveyMonkey in two separate surveys to address nursing students and the nursing faculty and staff. The CAS questionnaire and four

qualitative prompts were placed on SurveyMonkey from February 21, 2023, through June 5, 2023. There were four qualitative prompts assigned to both surveys on SurveyMonkey. The CPO, the Department of Nursing Chair, and the ELMSN Department Chair were interviewed to discuss the program evaluation and COVID-19 pandemic experiences. Five qualitative interview prompts were given to all three department leaders. All data was de-identified and password protected on the PM's laptop. All data on the personal laptop was de-identified. The project manager and residency preceptor collected and analyzed all data.

Interviews were conducted in person, and the program evaluator (PE) recorded responses on a laptop to validate accuracy. There were two interviews with the CPO, one with the ELMSN director and the Chair of the Department of Nursing. The same five questions were asked of all three interviewees.

1. Is there anything you are interested in finding out from the program evaluation?
2. Please tell me about your experiences during the start of the COVID-19 pandemic.
3. What could the University do better to prepare for future pandemics?
4. What did the University do correctly in managing the COVID-19 pandemic?
5. Do you feel that life has returned to normal?

Data Management Plan

Data Collection and Analysis

Data management is how observations and measurements are detailed, made, and authenticated (Williams et al., 2017). Data management plans promote the process by which data from those observations are identified and supported (Williams et al., 2017).

Data collection occurred concurrently with data analysis to find consequential patterns in the data to develop a conceptual schematic that is analytically grounded and descriptive (Royse

et al., 2019). A mixed-method approach was used to obtain quantitative and qualitative data from internal sources, the CAS survey, and structured interviews. The quantitative data included: 1) the number of COVID-19-positive cases on campus, 2) the number of students placed in quarantine or isolation, 3) the number of referrals to the UPMC urgent care center, and 4) the results of COVID-19 testing obtained by the University, urgent care center, and local hospital. The CPO securely kept the results.

Another quantitative data collection method was the Coronavirus Anxiety Scale (CAS) (see Appendix B), a brief anxiety screener that has demonstrated reliability and validity (Lee, 2020). The CAS demonstrates a high level of internal consistency with a reliability index of 0.918 using Cronbach's Alpha (Lieven, 2021). Validity is confirmed by 85% specificity and 90% sensitivity (Lee, 2020). Qualitative data was collected from the open-ended questions at the end of the CAS surveys and from the interviews with the CPO, the Department of Nursing Chair, and the ELMSN Department Chair. Combining quantitative and qualitative approaches provides additional insight into the data obtained.

DNP Project Results/Interpretation

Program Evaluation Results

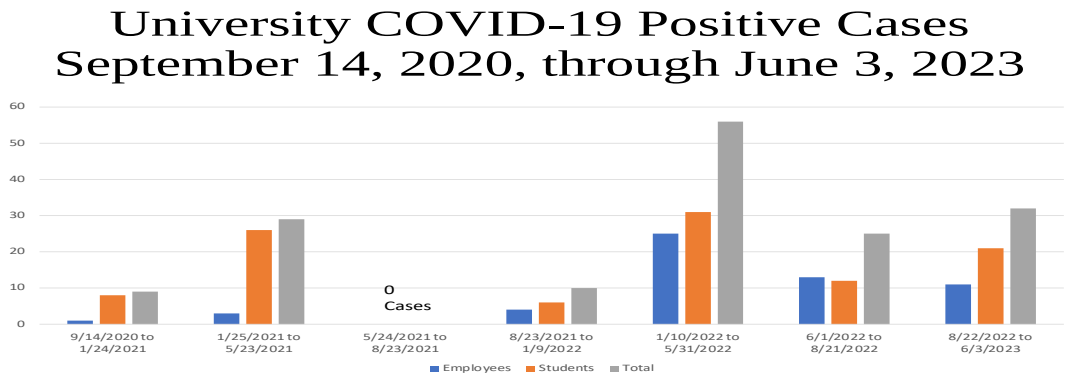
The quantitative data collected for the program evaluation from September 14, 2020, through June 3, 2023, evaluates the outcomes of the policies and procedures implemented by the University under guidelines suggested by the CDC, ACHD, and PHD to mitigate COVID-19 viral transmission. The Chief Pandemic Officer (CPO) was the person who led the development and implementation of the policies and procedures with the aid of the Emergency Preparedness Committee (EPC) and Emergency Response Team (ERT). Initially, the CPO met weekly with the Pittsburgh Council on Higher Education (PCHE). As the pandemic progressed, the CPO met

less frequently with PCHE due to the easing of pandemic restrictions. The meetings with PCHE verified that all colleges and universities in Allegheny County continued to follow the federal and state guidelines for COVID-19 mitigation strategies.

The policies and procedures implemented at the University successfully mitigated the spread of COVID-19 on campus. The total number of recorded on-campus COVID-19-positive cases from September 14, 2020, through June 3, 2023, was 161, with no hospitalizations or deaths, as noted in Figure 1 below. There were 58 on-campus isolation cases, with no quarantine cases on the campus recorded during that time frame, as noted in Figure 2. All students, faculty, and staff that needed to quarantine did so at home. There were no numbers tracked or recorded for at-home quarantine.

Figure 1

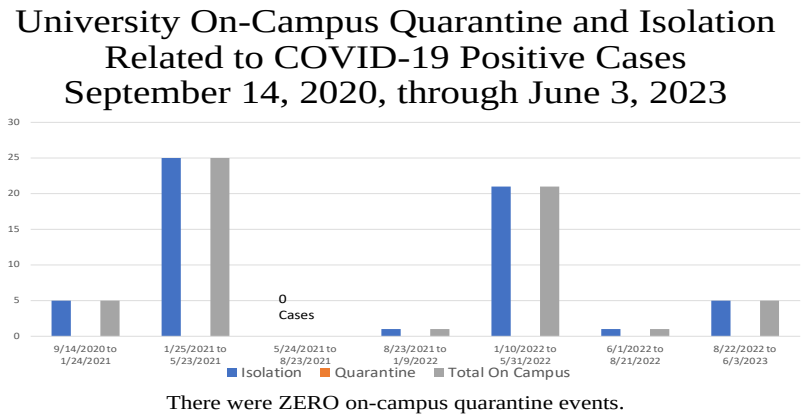
COVID-19 Pandemic Positive Cases



Note: The Y-axis represents the number of COVID-19-positive cases. The X-axis represents the time frame.

Figure 2

University On-Campus Quarantine & Isolation Cases



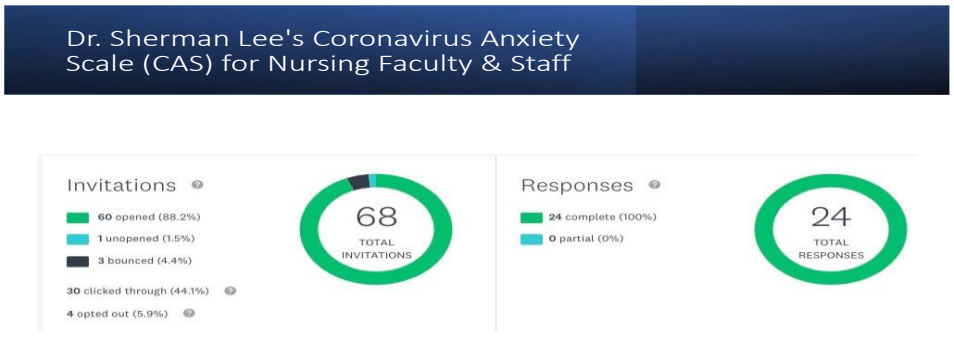
Note: The Y-axis denotes the number of quarantine and isolation cases. The X-axis denotes the time frames for the positive cases.

Coronavirus Anxiety Scale (CAS) for Nursing Faculty & Staff

The total number of emails sent to nursing faculty and staff was 68; 60 were opened. However, the CAS response total was 24 or 35.3% response rate as noted in Figure 3 below. It is important to note that all the full-time faculty and staff responded but only a small portion of the adjunct faculty and staff responded. The full-time faculty and staff were engaged and supportive of the project.

Figure 3

SurveyMonkey Nursing Faculty & Staff Responses

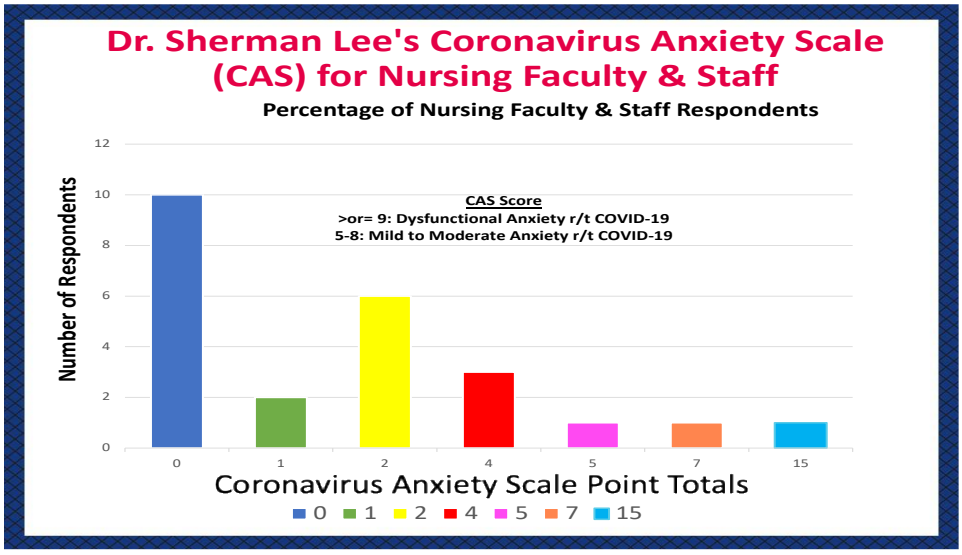


Note: The response rate is determined at 35.3%. Information from SurveyMonkey (2023).

The CAS survey results for nursing faculty and staff are demonstrated by a bar graph found in Figure 4 below. The lowest point value was zero, and the highest point value was fifteen. Forty-two percent of the nursing faculty and staff responses were zero, indicating no anxiety experienced during the COVID-19 pandemic. Only 4% of the respondents experienced dysfunctional or severe coronavirus pandemic-related anxiety. Eight percent of nursing faculty and staff responded with five to seven CAS scores, indicating mild to moderate anxiety related to the COVID-19 pandemic. Overall, 12% of nursing faculty and staff experienced mild to severe anxiety related to the COVID-19 pandemic.

Figure 4

CAS Nursing Faculty & Staff Results



The nursing faculty and staff's qualitative responses on SurveyMonkey were as follows:

1. Please describe your anxiety produced during the COVID-19 pandemic as relating to the implementation of nursing education clinically or through the virtual classroom experience.

   a. Seventy-nine percent (N=19) of faculty and staff responded to the first prompt; five skipped the prompt.
   b. The answers varied from no anxiety to anxiety surrounding issues, such as providing sound virtual learning activities.
   c. Mask-wearing, difficulties with online clinical, and the increased workload ~~all~~ caused faculty anxiety during COVID-19.

2. Please give feedback on how the nursing department or university could have helped decrease your experienced anxiety during the COVID-19 pandemic.
   a. Seventy-one percent (N=17) faculty and staff members responded.
   b. The faculty and staff promote better communication and transparency with the rapidly changing guidelines with frequent updates would help.
   c. A few believed that the University and nursing department did many things right.
3. Please describe your personal experience during the COVID-19 pandemic.
   a. Sixty-three percent (N=15) of staff members responded to this prompt, while nine skipped the prompt.
   b. Answers were varied, like fortunate, never got sick, exhausting, isolated, lack of knowledge, and anxiety due to changing roles and staffing shortages.
4. Please describe any positive changes the university and/or nursing department implemented during the COVID-19 pandemic that helped decrease experienced anxiety.
   a. Fifty-eight percent (N=14) of faculty and staff responded, and ten skipped the prompt.

b. Responders noted that support for staying home when ill was a positive change.
c. Wearing masks at all times, frequent wiping of equipment after use, safety protocols, and communication from the administration were positive experiences that helped decrease anxiety.
d. The use of make-up assignments for clinical and virtual classes was beneficial.

The three qualitative interviews with the CPO, the Department of Nursing Chair (DONC), and the ELMSN Department Chair shared common themes. All three interviewees were interested in reading the findings of this study because they would like to know if the mitigation strategies were effective and whether pandemic anxiety was an issue for nursing students, faculty, and staff. The three interviewees verbalized the need for policies, procedures, and processes to be clearly defined based on federal, state, and local guidelines. This helped the University remain open since the Fall of 2020. Interviewing the President of the University would have been instrumental, but he was unavailable at the time of this program evaluation. Upon reflection, meeting with the Emergency Preparedness Committee (EPC) and the Emergency Response Team (ERT) for group interviews would have also been valuable.

Communication and transparency were integral throughout the pandemic, and the interviewees agreed that shutting down early was the right decision. All three leaders believed the world has entered a new normal state due to the COVID-19 pandemic.

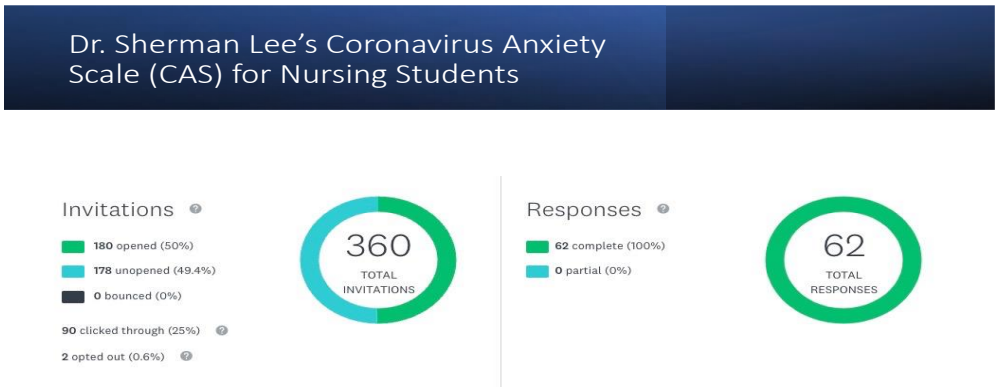
Coronavirus Anxiety Scale (CAS) for Nursing Students

The total number of emails sent to students was 360, but only 180 were opened. The unopened emails coincide with the number of nursing student graduates from the undergraduate and graduate programs. The University only keeps email accounts active for three months after

graduation, contributing to the lower response. Therefore, the response rate was determined using the opened email value of 180. The response rate is 34.4% as noted in Figure 5.

Figure 5

SurveyMonkey Nursing Student Responses

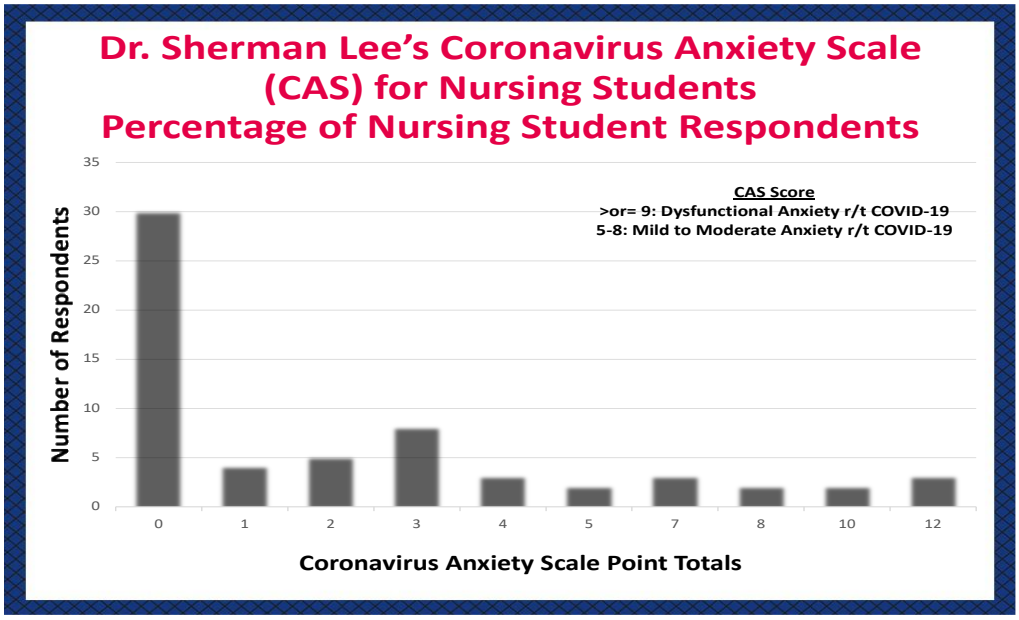


Note: The unopened invitations are related to inactive University emails 3 months after graduation. The response rate is 34.4% by dividing the total responses by the opened emails and multiplying by 100—information from SurveyMonkey (2023).

The CAS survey results for nursing students are demonstrated by a bar graph found in Figure 6 below. The lowest point value was zero, and the highest point value was twelve. Forty-eight percent of the student nurse responses were zero, indicating no anxiety experienced during the COVID-19 pandemic. However, 8% of the respondents experienced dysfunctional or severe coronavirus pandemic-related anxiety. Eleven percent of nursing students responded with CAS scores of five to eight, indicating mild to moderate anxiety related to the COVID-19 pandemic. Overall, 19% of nursing students at the University experienced mild to severe anxiety related to the COVID-19.

Figure 6

CAS Nursing Student Results



The nursing students' qualitative responses on SurveyMonkey were as follows:

1. Please describe your anxiety about your nursing education during the COVID-19 pandemic.
    a. None of the nursing students responded to this question.
2. Please give feedback on how the nursing department or university could have helped your experienced anxiety during the COVID-19 pandemic.
    a. Sixty-six percent (N=41) of the nursing students responded to this qualitative prompt, and twenty-one nursing students skipped the prompt.
    b. The answers ranged from "everything was fine" to "improved communication would have helped anxiety levels be less."
    c. One respondent preferred continuing to learn online rather than attending in-person classes.

3. Please describe your personal experience with the COVID-19 pandemic.
    a. Sixty-nine percent (N=43) of nursing students responded to this qualitative prompt; thirty-one percent (N=19) students skipped the prompt.
    b. There were various comments about COVID-19 taking a financial toll, job loss, personal illness that varied from mild to hospitalized, fear of illness, panic attacks related to anxiety from fear of the COVID-19 virus and learning how to function during a pandemic.
4. Please describe any positive changes the university and/or nursing department implemented during the COVID-19 pandemic that helped decrease experienced anxiety.
    a. Sixty percent (N=37) of the nursing students responded to this prompt; twenty-five students skipped this prompt.
    b. The responses were primarily positive stating that the University followed the guidelines set by the federal, state, and local authorities.
    c. Positive implementations were mask-wearing, social distancing at least six feet apart in classrooms, options for online learning, and allowing for make-up days.

Due to time constraints, the project manager could not create a University Policy and Procedure Manual for effectively managing diseases requiring isolation and quarantine by the end of the program evaluation. This manual will be available online and in hard copy in the future by August 30, 2023

Strengths and Weaknesses

This summative program evaluation identified the following strengths regarding this University's COVID-19 response. They included:

- The University remained open, and students remained on campus once it was re-opened.

- Policies and procedures followed the CDC, state, and local guidelines, effectively mitigating COVID-19 transmission.
- CPO and Nursing Leadership team provided continual support throughout the pandemic.
- University-wide support was present throughout the pandemic.

The weaknesses and opportunities for improvement were also identified regarding this University's COVID-19 response and included:

- Some student information was not readily available due to lack of a Student Health Department. For example, the evaluation could not identify how many students were referred to the local hospital or urgent care for further evaluation.
- University vaccination rates were not readily available. The CPO did keep copies of all vaccination information on the campus, but these rates are not accessible to the program evaluator or the public at this time.
- The current tracking system did not show at-home quarantine and isolation cases.
- Lack of a University policy and procedure manual for disease mitigation during a pandemic or disease outbreak.
- The small size of the University limits resources for student and faculty anxiety to be adequately addressed.

Interpretation & Summary

The policies and procedures implemented at the University successfully mitigated the spread of COVID-19 on campus by following the recommended guidelines from the CDC, PHD, and the ACHD, which is consistent with the available research by Fox et al. (2021) and Hamer et al. (2021). A Turkish study followed guidelines similar to the CDC guidelines in mitigating the spread of the COVID-19 pandemic (Baskak et al., 2022).

The existing policies for infectious outbreaks were limited, with no guidelines and procedure manual for pandemic preparedness. The evaluation University had limited existing policies to manage disease outbreaks. In the fall of 2020, approximately half of the universities/colleges in the United States allowed some students on campus for in-person learning while following the CDC guidelines (Zafari et al., 2021). The university was unprepared for the pandemic secondary to a brand-new situation not seen in the institution's history. As a result, the university relied on recommendations from the CDC, state and local resources. The legislation will require higher education institutions to create and expand emergency response and preparedness plans due to the COVID-19 pandemic (Smalley, 2021). Institutions of higher education (IHEs) must balance academic continuity and prevent morbidity and mortality during a pandemic crisis (Shamsir et al., 2021).

Sacco & Kelly (2021) and Sessions et al. (2022) were the only relevant studies examining the pandemic's effect on nursing faculty and staff. Sacco & Kelly (2021) performed a descriptive, quantitative study of 112 nursing faculty from the northeast and reported that the pandemic negatively impacted 73.1% of respondents. However, the study does not separate the negative impact into categories. Sessions et al. (2022) performed a qualitative study of twenty-seven nurse educators in Maryland. They discovered that nursing faculty struggled with stress and anxiety but did not delineate the statistics between stress and anxiety. The pandemic-related anxiety experienced by this University's nursing faculty and staff showed that 12% of the respondents experienced mild to severe anxiety, which does not correlate with the limited available research. This lower level of anxiety may be related to the fact that this was retrospective three years after the COVID-19 pandemic began.

Kaplan et al. (2020) found that 36.9% of nursing student participants experienced mild anxiety, while none reported severe anxiety. Son et al. (2020) revealed that 71% of nursing students experienced increased anxiety and stress. Fitzgerald & Konrad (2021) used a descriptive web-based survey that fifty nursing students in Long Beach, CA, completed showing 84% feeling overwhelmed or anxious. In contrast, Israel reported 244 university nursing students reporting a prevalence of 42.8% experiencing moderate anxiety and 13.1% facing severe anxiety (Savitsky et al., 2020). It is important to note that most studies mentioned combined stress and anxiety or overwhelmed and anxious. There is no separation in their statistics. The severe, dysfunctional anxiety in this program evaluation of 8% is likened to the 13.1% of nursing students experiencing severe anxiety (Savitsky et al., 2020). The pandemic-related anxiety experienced by nursing students showed 19% of the respondents experienced mild to severe anxiety, which correlates with available research (Kaplan et al., 2020; Savitsky et al., 2020; Son et al., 2020).

The responses to the qualitative prompts were enlightening regarding experiences with the COVID-19 pandemic. The most common theme between the nursing students and nursing faculty/staff were communication and transparency being key to alleviating anxiety during the pandemic. Another common theme is the need for streamlined information for faster reaction and dissemination of policies and procedures. The individual experiences during the COVID-19 pandemic are interesting to review because the experiential similarities reported are global. For example, the literature reviewed, and the program evaluation results echo the feelings of fear and anxiety related to the pandemic, job loss, illness and hospitalization, the future, and worry of transmitting the virus to loved ones (Kaplan et al., 2020; Fitzgerald & Conrad, 2021; Sacco & Kelly, 2021; Savitsky et al., 2020; Sessions et al., 2020).

Limitations

This generalizability of this program evaluation is limited as it reports on a small number of participants at a faith-based university with lack of demographic data due to anonymous reporting.

Recommendations

As a result of this summative program evaluation the following recommendations have been identified.

- To manage testing at the University, it is recommended that the University continue to keep its lab status moving forward to have the ability to implement on-campus testing when needed. The ability to provide on-campus testing expedites test results and improves the speed of completing contact tracing (Fox, 2021).
- The University dashboard should be updated regularly to provide needed information regarding the pandemic or other health concerns.
- Important to incorporate University Dashboard, social media formats, and email in rapid emergency communication between the University administration, faculty, staff, and students.
- It is recommended that a policy and procedure manual dedicated to pandemic protocols and emergency preparedness be completed for the University. The program manager will continue to work on this manual after the project concludes.
- Consider the addition of a Student Health Department on campus staffed with a nurse practitioner or registered nurse to aid in contact tracing, isolation, and quarantine tracking, on and off campus, vaccine adherence, and exemption status.

- Continue to be mindful of nursing faculty, staff, and nursing students' pandemic-related anxiety as the effect of anxiety on all faculty, staff, and students in a college setting needs to be addressed with access to appropriate resources.
- CPO and Emergency Preparedness Committee (EPC) need to share and delegate responsibilities to reorganize the work on the CPO.
- Continue the vaccination policy to permit medical, religious, and personal exemptions.
- The nursing students must follow the hospital vaccination policies.
- Encourage universities and colleges in Allegheny County to meet regularly and discuss their program evaluations and pandemic policies and procedures to gain insight into future preparedness.

- The research on nursing faculty, staff, and nursing students' anxiety during the COVID-19 pandemic is lacking, and further research should continue.
- Further research studies on pandemic preparedness in a university or college setting are necessary due to the novel nature of the SARS CoV-2 pandemic.

Conclusion

The COVID-19 pandemic caused significant interruptions to universities and colleges across the United States. Institutions of higher education closed their doors and moved to online formats while struggling to navigate an emergency pandemic and being challenged to find creative ways to provide quality education for students. Policies and procedures were created under the CDC's and state and local health department's guidance. It is important to note that "to date, however, no general pandemic preparedness frameworks exist for Institutions of Higher Education (IHE)" (Shamsir et al., 2021, p. 1).

This University successfully mitigated the spread of the COVID-19 virus on campus by implementing policies and procedures based on the guidelines presented by federal and local authorities. The University has remained open from the fall of 2020 to the present. The results of this summative program evaluation have been discussed informally with the CPO, DONC, and the ELMSN chair. A formal presentation of the results and recommendations will be given at a future date to the CPO and nursing administration. As noted earlier, further research studies on pandemic preparedness and the corresponding anxiety created in a university setting are necessary due to the novel nature of the SARS-CoV-2 pandemic as well as other disease outbreaks. The global community continues to navigate the new normal after the COVID-19 pandemic, and our global community needs to be prepared.

Funding

The project was self-funded by the program manager. The only issue with the self-funding program evaluation is that there was not an opportunity to provide group sessions with students. The gift cards were given to the nursing department to thank them for their instrumental help during the program evaluation.

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Appendix A

A Catholic University Mitigation Strategy Logic Model

Resources/Inputs	Activities	Outputs	Short-Term Outcomes	Intermediate Outcomes	Long-term Outcomes
The university and program evaluator will provide funding for gift cards for participation and possible expenses in implementing the program evaluation. Academic Faculty Students Alumni that graduated during the COVID-19 Pandemic University Staff Chief Pandemic Officer University Leadership	Conduct face to face interviews of the Chief Pandemic Officer, Department of Nursing Chair, and ELMSN Department Chair of the 2020-2022 regarding the experience of being at the University during the pandemic. Use a survey that can be emailed to nursing faculty, staff, students, including international, local, and nursing students, and recently graduated nursing alumni from 2020-2022. The survey will be already validated and may be the validated 5 question CAS (Coronavirus Anxiety Scale) Survey. The same survey will be used for all participants. Three qualitative questions are added to the survey as well. Review the effectiveness of policies and procedures placed, such as, the Webpage COVID Dashboard, Contact Tracing Policies, Weekly monitoring of COVID cases from the 2020-2022 period Review the effectiveness of referral to local UPMC Urgicenter for diagnosis and treatment of COVID cases Review policies pertaining to masking and social distancing. Review the protocol to communicate with staff and students Review the quarantine and isolation procedures, were they effective at mitigating the spread of COVID-19	Review the number of attendees to the focus groups and the experience during the pandemic of the attendees. Review overall COVID positivity rate, positive COVID cases, number of COVID tests performed, percentage of staff and students vaccinated versus unvaccinated. Accumulate and evaluate the data from all listed avenues and review for the program evaluation. Review the survey results and accumulate the data from the surveys.	Increased knowledge about the effect of the pandemic and pandemic policies on the parties involved in the focus groups and surveys. Create a document that summarizes the policies and procedures implemented during the COVID pandemic. Create an EXCEL spread sheet that documents the results of COVID 19 infection during the pandemic from 2020-2022.	Improve pandemic protocol and policy awareness that line up with federal and local recommendations by CDC and Allegheny County Health Department. Develop strategies to improve coping skills of staff, faculty, students, and parents during times of pandemic.	Create an effective Pandemic Policy and Procedure Manual that can be utilized in future pandemic and pandemic risk situations.

Appendix B

Cornavirus Anxiety Scale

Not at all	*Rare, less than a day or two*	*Several days*	*More than 7 days*	*Nearly every day over the last 2 weeks*

How often have you experienced the following activities over the last 2 weeks?

1. I felt dizzy, lightheaded, or faint, when I read or listened to news about the coronavirus.
2. I had trouble falling or staying asleep because I was thinking about the coronavirus.
3. I felt paralyzed or frozen when I thought about or was exposed to information about the coronavirus.
4. I lost interest in eating when I thought about or was exposed to information about the coronavirus.
5. I felt nauseous or had stomach problems when I thought about or was exposed to information about the coronavirus.

Column Totals

Basic information

The coronavirus anxiety scale (CAS) is a self-report mental health screener of dysfunctional anxiety associated with the coronavirus crisis. Because a significant number of people experience clinically significant fear and anxiety during an infectious disease outbreak, the CAS was developed to help clinicians and researchers efficiently identify cases of individuals functionally impaired by coronavirus-related anxiety.

Psychometric properties

Independent studies of adults residing across the United State have demonstrated that the CAS is a reliable instrument (αs > .90), with solid factorial (single-factor; invariant across sociodemographics) and construct (correlated with anxiety, depression, suicidal ideation, and drug/alcohol coping) validity. The diagnostic properties of the CAS (90% sensitivity and 85% specificity) are comparable to related screening instruments, such as the Generalized Anxiety Disorder-7.

Scoring and interpretation

Each item of the CAS is rated on a 5-point scale, from 0 (*not at all*) to 4 (*nearly every day*), based on experiences over the past two weeks. This scaling format is consistent with the DSM-5's cross-cutting symptom measure. A CAS total score ≥ 9 indicates probable dysfunctional coronavirus-related anxiety. Elevated scores on a particular item or a high total scale score (≥ 9) may indicate problematic symptoms for the individual that might warrant further assessment and/or treatment. Clinical judgement should guide the interpretation of the CAS results.

Use

The CAS is placed in the public domain to encourage its use in clinical assessment and research. No formal permission is therefore required for its reproduction and use by others, beyond appropriate citation:
Lee, S. A. (2020). Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*. https://doi.org/10.1080/07481187.2020.1748481