Case Study:
How Gallaudet University's Office of Sponsored Programs and Research Services Implemented Their Business Continuity Plan during COVID-19

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ABSTRACT

This case study describes the plans and innovations that contributed to the successful transition from traditional, in-person working to working virtually at Gallaudet University during the COVID-19 pandemic. On March 13, 2020, Gallaudet closed its campus to non-essential employees and transitioned to remote work due to the global coronavirus pandemic. Gallaudet University, a small, primarily undergraduate institution (PUI), is the world's only university in which all programs and services are specifically designed to accommodate deaf, hard of hearing, and deafblind students. Based on a master's level course paper on business continuity plans (BCP) written by an Office of Sponsored Programs and Research Services (OSPRS) employee nine-years earlier, the OSPRS implemented a business continuity plan to ensure that office operations would continue in the face of this interruption in service. If an emergency occurred and grants were due, what steps would be necessary to meet proposal deadlines? How would the OSPRS continue to be responsive to faculty and research staff and facilitate the proposal development process during an emergency? How would the office communicate during an emergency with deaf and hearing individuals and provide equal access? Answering these questions in 2011 created the innovations needed for Gallaudet University's OSPRS to successfully navigate the pandemic.

Keywords: pandemic, disaster resiliency, preparedness, COVID-19, coronavirus, business continuity plan, telework, virtual work, remote work, access, communication, disaster, change management, hybrid workplace, work from home, deaf, hard of hearing

INTRODUCTION

On March 13, 2020, Gallaudet University closed its campus to non-essential employees and transitioned to remote work due to the global coronavirus (SARS-CoV-2) pandemic. Gallaudet University, chartered in 1864 by an Act of Congress that was signed into law by President Abraham Lincoln, is a small, primarily undergraduate institution (PUI), located in Washington, D.C. It is the world's only university in which all programs and services are specifically designed to accommodate deaf, hard of hearing, and deafblind (DHHDBDB) students. As of the 2019–2020 academic year, Gallaudet enrolled a total of 1,523 students and employed a total of 893 employees, 509 of whom are deaf or hard of hearing (Gallaudet University Fast Facts, 2021).

The Gallaudet University Office of Sponsored Programs and Research Services (OSPRS) assists the university's faculty, staff, and students in developing and submitting internal and external grant proposals in response to requests for proposals (RFP) and other solicitations from funding sponsors. This is a mission-critical role; if it were to be disrupted or interrupted for any reason, it could be highly problematic.

Fortuitously, OSPRS was already prepared to work remotely and its staff were able to transition to working from home with minimal challenges. Ashuantay

Houston, the primary author of this paper, was a relatively new OSPRS employee in 2011. She had written a master's level course paper about continuity of operations. The OSPRS used this paper to develop a business continuity plan to ensure that office operations would continue if an event were to occur that would interrupt office operations.

The field of research administration was developed and became a profession in the 1960s (Roberts, Sanders, & Sharp, 2008). Over the years, the submission process in response to RFPs has changed from paper-based to an electronic-based submission process called electronic Research Administration (eRA). With various types of organizations submitting proposals from all over the country and world, usually a single deadline is established. All proposals must be submitted by that due date and time.

Preparing and submitting a proposal can already be stressful and challenging when trying to meet a sponsor's deadline, but trying to meet a deadline during an emergency such as a natural disaster or pandemic can be absolutely dreadful. If an emergency or any other interruption of service occurs and a grant(s) is due, what steps are necessary to meet the proposal deadline? In our case, how does the OSPRS continue to be responsive to its customers (faculty, staff, and students) and facilitate the proposal development process? As a

university with deaf, hard of hearing, deafblind, and hearing faculty, staff, and students, how would OSPRS ensure that it communicates effectively during an emergency? These were just a few of the questions addressed when Gallaudet's OSPRS created its business continuity plan.

For this case study, the authors conducted a retrospective observation by reviewing the business continuity plan developed for the OSPRS in 2011 and determining the success of its implementation and improvements to service made before the coronavirus (COVID-19) pandemic. At the time, the OSPRS was a small office with a staff of three full-time personnel and minimal resources. It needed innovative but reasonable and practical guidelines on how the office would be able to continue operations during an interruption of service, but also in a manner that would be accessible for the population it serves. In this article we examine and answer the following questions: (1) Was the BCP enacted as written, (2) Was the BCP effective, and (3) What challenges were faced in implementing the plan as written?

The lessons learned from this case study will provide other sponsored research offices, particularly those at other PUIs with limited resources that have no business continuity plans or policies, a framework for developing their own plan and being prepared for the next interruption of

service. This will be particularly useful for those universities that may work with deaf, hard of hearing, or deafblind individuals.

WHAT IS A BUSINESS CONTINUITY PLAN?

When a business experiences a work stoppage, its business processes are impacted and the business is in jeopardy of losing revenue (Livingston, 2011). This is why it is important for all businesses to create a business continuity plan. Livingston (2011) provides businesses with strategies on how to develop a business continuity plan to get organizations back in operation as soon as possible after an interruption in services. An interruption in services can be caused by a natural disaster, a terrorist attack, a public health emergency, or simply a loss of communication, all of which could be happening only locally and not interrupt federal grant deadlines.

Gallaudet University is just a few miles from the Pentagon, where a terrorist attack occurred on September 11, 2001. As devastating an event as 9/11 was, the country went back to work the next day, a testament to the resilience of the American people. It was also an indication that deadlines persist in spite of atrocities. How could Gallaudet become a "disaster-resilient" university ready to deal with calamity?

The federal government has required local government entities to have emergency plans to respond to disasters

since the 1950s (Edwards, 2007). After 9/11, national attention focused on what America could have done to be better prepared for the events that occurred on that day. The National Commission on Terrorist Attacks Upon the United States recognized the National Fire Protection Association's (NFPA) *Standard on Continuity, Emergency, and Crisis Management* document as a national preparedness standard that has been "adopted by the U.S. Department of Homeland Security as a voluntary consensus standard for emergency preparedness". It is used by "public, not-for-profit, nongovernmental, and private entities on a local, regional, national, international and global basis" according to NFPA's website (https://www.nfpa.org). This document was considered the model for how the public-sector should handle preparedness (Clas, 2008). The *Standard on Continuity, Emergency, and Crisis Management* is a living document and continues to evolve as any BCP or emergency plan should. Its last update was in 2019.

As research administrators, one part of our daily work is to analyze and mitigate risks to the grant application cycle and protect the competitiveness of our faculty, staff, and students, and of the university as a whole. Business Continuity Plans are designed to mitigate risks, reduce the impact of a crisis, and get businesses back up and running as soon as possible (Cerullo

& Cerullo, 2004). Any type of business or organization could experience any one of the previously mentioned interruptions, which is why a business continuity plan is needed — more organizations should create one. Hewlett-Packard conducted a survey in 2007 which showed that 18% of enterprises and 31% of small businesses still had not developed BCPs despite events that had taken place over the years (Clas, 2008). Businesses with BCPs were able to get their operations back up and running again days after the September 11th terrorist attacks in New York City (Livingston, 2011). For those organizations that continued not to have documented BCPs, the coronavirus pandemic provided yet another compelling reason why every organization should have a plan in place.

It continues to be a challenge to get top management buy-in and organizational investment in developing a BCP. Executives view BCPs as costly and time-consuming projects that do not yield a high return on investment (Cerullo & Cerullo, 2004). However, a BCP does not need to encompass the whole organization. Individual offices or divisions can create their own plans. That is how the OSPRS was able to develop a plan specifically designed for their office.

THE BUSINESS CONTINUITY PLAN

The OSPRS plan followed the five phases outlined in Livingston (2011): Identify, Analyze, Design, Plan

Development and Execution, and Test and Maintenance. Identifying the different types of interruptions is the most important phase of implementing a BCP (Livingston, 2011). Any and every threat that could halt business should be considered. Many organizations may already have emergency plans solely focused on natural disasters, but neglect the increasing man-made external threats (Cerullo & Cerullo, 2004).

In identifying potential interruptions, the OSPRS sought a business continuity plan that addressed the handling of proposals during an emergency for not only natural disasters, but also other unforeseen events, including terrorist attacks, biological warfare, loss of internet connection, or downed telephone communication lines. The OSPRS plan did not anticipate a global pandemic.

Because of its location in the Nation's Capital, Gallaudet University is at the epicenter of politics and the headquarters of a number of federal agencies. It is extremely important for the OSPRS plan to address more than natural disasters. The OSPRS BCP incorporates parts of the university's emergency plan but adapts it to meet the OSPRS goal of being able to continue services, specifically related to the submission of proposals, during an interruption of services. The following describes the main points of the OSPRS plan, which includes communication, access

to information, and ability to continue services off-campus.

Office Captain

The BCP requires the selection of an Office Captain. The Office Captain instructs personnel during an emergency and plays an important role in ensuring that the BCP and emergency procedures are being followed. The Office Captain should be familiar with and follow the Floor Captain Roles and Responsibilities located on the Gallaudet University's Department of Public Safety Emergency Preparedness Guide website (https://www.gallaudet.edu/public-safety/emergency-preparedness-guide/). Since the OSPRS is a small office, the Assistant Dean for OSPRS was considered the ideal candidate to serve as the Office Captain and to be in charge of assigning staff duties during an emergency.

Communication

Communicating during an emergency can be difficult no matter which population is being served. As a bilingual university, Gallaudet provides communications in both ASL and English, making communication accessible for all. When an emergency occurs, the Gallaudet University Department of Public Safety Communications Center issues a text-based alert to all persons who have registered their cellular telephone and/or email address for notification. If an emergency were to occur during normal working

hours, an alert is sent to all computers on campus and a notification pops up on the screen alerting individuals to the emergency.

The original BCP required OSPRS staff members to exchange cellular phone numbers with each other after declaration of an emergency. The Office Captain is in charge of collecting and disseminating these contact numbers and the first line of communication when reaching out to others about emergencies, if the emergency occurs while off-campus. Through text or a call, all OSPRS staff members should be able to keep each other informed about grant activities. In hindsight, it is important for staff to exchange contact information prior to an emergency. Although staff had already exchanged contact information (cellular telephone numbers, personal email addresses, etc.) before declaration of an emergency, the BCP had not been updated. When the original BCP was created, the three-person staff consisted of all hearing employees. Since the creation of the plan, two deaf associates have joined the OSPRS staff. Therefore, the office will revise its plan based on the lessons learned and technological visual communication advances, and will explore how to make the next iteration of the plan more inclusive and bilingual.

Staff members also will be able to communicate through email and other internet-supported services such as a video or instant messaging (IM). Each staff member has a home computer to work on grant activities. Through a webcam, if available, the staff can engage in web conferencing and discuss any pertinent details needed to review and complete the grant application. Now, it is almost standard for computers to have a webcam and cameras are available on tablets and smartphones. When communicating with a DHHDB grant Principal Investigator (PI) or Project Director (PD), it is important to identify additional forms of communication. For faculty and staff working on grants during the pandemic, we provided them with our personal cellular telephone and text numbers to facilitate communication. Gallaudet is classified as an R2 (high research activity) university. Unlike research support units at R1 universities with larger volumes of grant applications, the OSPRS is able to provide more hands-on support and does not require PIs to enter any proposal information or upload documents into eRA systems. Assuring that employees were accessible to PIs throughout the proposal development process was important as we wanted to continue providing the same level of support prior to COVID-19.

If the on-campus internet connection is not working, to communicate with PIs who may be located off-campus, relay services provided by companies such as Convo, Purple, or Sorenson Communications could

be used. By entering the telephone number or video phone (VP) number of the deaf person, a Video Relay Service (VRS) connection is made and through an American Sign Language (ASL) interpreter communication can be made (Federal Communications Commission, 2021). Most DHHDB persons have a videophone and can be contacted directly by dialing their videophone number. If on campus during an emergency, OSPRS staff can dial the PI's VP number directly and communicate with the PI using the videophone and ASL, the primary mode of communication for the university, if the internet connection is available. Additionally, the OSPRS has identified other ways to communicate visually since the creation of the BCP through platforms like FaceTime, Google Meet, and Zoom.

The BCP also required all hearing employees to be trained in retrieving voice messages from their assigned work telephones when not on campus. If employees are not able to access telephone messages from off-campus, important messages left by agency officials or PIs regarding grants could be missed. A tutorial guide was created and provided to each employee for reference.

Information and Documentation

All OSPRS office information and grant files are kept on a university server. This drive was only accessible on campus at the time of the plan development. To ensure

that all files were accessible if an emergency were to occur and access to the server was unavailable or the university server was to be wiped out, an external backup drive would be maintained and files would be saved to the backup drive regularly. Today, businesses also have to worry about cyberattacks. Cashell, Jackson, Jickling, and Webel (2004) stated in their *CRS Report for Congress* that "Information security – the safeguarding of computer systems and the integrity, confidentiality, and availability of the data they contain – has long been recognized as a critical national policy issue" (p. 5). As more businesses become automated and transition to cloud servers, data become more susceptible to being hacked through cyber and ransomware attacks.

Within two months in 2021, two major organizations were hacked and became victims of ransomware, which is surging, according to Greg Myre (June 4, 2021) in an article published on the National Public Radio website. Myre described how Russian criminal gangs attacked the Colonial Pipeline, a major supplier of gasoline for the East Coast in May, and then attacked JBS, the world's largest meat supplier, in June. The Colonial Pipeline attack caused an interruption in services and led to a number of gas stations closing due to lack of fuel. Even police departments have been hacked. In April 2021, the Metropolitan Police Department in Washington, D.C. was

hacked and data were leaked (Perlroth & Barnes, 2021). No organization is safe and precautions should be taken.

Following its BCP, OSPRS purchased an external hard drive as a backup for data saved on the university server. However, the external hard drive also benefited the office by mitigating the risk of being hacked since data were saved to the external drive. One way the OSPRS BCP tries to minimize the loss of access and secure grant-related information is for an employee to be responsible for weekly backups of all data from the server onto the external backup drive, which is not connected to the internet and therefore is not vulnerable to cyberattacks. If the OSPRS relied on paper documents and a natural disaster such as a tornado were to occur, business continuity may be more difficult due to lost or destroyed documents (Melton & Trahan, 2009). With no documents, submitting a grant in a timely fashion would be difficult due to the amount of paperwork needed to create a proposal. As the external backup drive is portable, if an emergency happens and staff is still located on-campus, one employee would be responsible for disconnecting the external drive and removing it physically from the university premises. The external drive can then be connected to another computer and the information saved on the server would then be accessible off-campus.

When the external drive was originally suggested as a backup to the server, neither the BCP author nor anyone else in the office was familiar with cloud-based servers or knowledgeable about possible security concerns. The university does not participate in or have any secret or classified research occurring on campus; thus, concern for top secret or classified research information was not considered an issue at the time of creation. As the hard drive contained confidential information such as salaries and personal identifiable information (PII), Gallaudet Technology Services was contacted about selecting an external hard drive and ensuring compliance with institutional security practices. Gallaudet Technology Services recommended the hard drive model purchased and provided recommended security protocols. The hard drive was secured in an employee's office that was locked when the employee was not present. When the hard drive was not being used to back up data, it was placed in a locked desk drawer. OSPRS plan also required that if the hard drive was located off-campus, it should be locked in a cabinet or room when not in use. Only OSPRS personnel who signed the university's confidentiality agreement were provided access to the information on the hard drive. Any institution incorporating a backup system as part of their business continuity plan should consult with their institution's

technology office and policies to ensure the plan meets institutional security requirements.

Google Drive, a cloud-based storage platform, officially launched in 2012 (Sottek, 2012) and Microsoft's OneDrive was released worldwide in 2014 (Microsoft News Center, 2014). Both were not readily available until after the BCP was developed. Google Drive, the cloud server that the OSPRS now utilizes, provides users with file sharing and remote location backup of files, which allows users to access files anywhere and collaborate with others on documents using third-party applications (Nolledo, 2020). When the BCP was written, the office was still relying on a Rolodex in the assistant director's office to document university and agency information. During an emergency, the BCP relied on the assistant director to retrieve the Rolodex and take it off-campus. Only one other employee had a key to the assistant director's office to access this information, and if the assistant director was not available, this employee would be required to retrieve the Rolodex. As the university started to utilize Google Drive, information from the Rolodex was transferred to a Google Document and only shared with OSPRS staff.

Telework

Although work-life balance has become an important topic today, it is still a relatively new concept in its

implementation. Today, telework or remote work is one way that organizations are incorporating a work-life balance. However, prior to the coronavirus pandemic, telework was still a concept that had not fully caught on with many organizations. Telework is the practice of working remotely in a location outside of the employee's typical workplace. Telework is typically practiced at an employee's home. Glosserman stated that in 1996, at least 8 to 9 million people were engaged in teleworking in the United States (cited in Daniels, Lamond, and Standen, 2001; Rourke, 1996). Since 2005 there has been a 100% increase in employees teleworking at least one day a week (Lister & Harnish, 2005). In the past, telework was limited due to the technology a person may have at home. A telephone, fax machine, and email that sat on a bandwidth internet system were all that were available at the time (Gill, 2005). With the advances in technology, teleworkers now have greater ability to work anywhere. Teleworking is a useful solution when a natural disaster like a snowstorm is predicted beforehand. Employees can then anticipate the storm and prepare by saving current documents for access at home; the designated employee can take the external drive with them. As stated in Gray, Hodson, and Gordon's (1993) book "Teleworking explained", teleworking involves the processing of information electronically and consequently the use of

telecommunications. Employees should have the technological capacity to work from home or a remote location. Incorporating telework into a BCP provides organizations the flexibility to interchange business operations from a central location to a remote location (Gill, 2005). The OSPRS' original BCP only permitted teleworking if a natural disaster warning had been issued. Teleworking was not available as a part of one's work schedule as Gallaudet did not have a telework policy in place at the time. It was not until 2018 that the university created a policy for flexible work arrangements.

By implementing its BCP, the OSPRS experienced a minimum interruption of services and could quickly recover to meet grant deadlines. Until March 2020, the OSPRS had not experienced a need to implement the plan, but this all changed during the coronavirus pandemic. Now it was time to put the plan into practice.

FROM PLAN TO PRACTICE: THE SUCCESSFUL ADAPTATION TO ADVERSITY

According to the National Research Council (2009), a resilient organization can respond and recover from adverse, stressful situations. The business continuity plan developed for the OSPRS prepared the office for an emergency that could interrupt the university's ability to submit grant applications on time. The plan was to ensure that the OSPRS was able to quickly

and "successfully adapt to adversity," thereby minimizing the discontinuance of services and ensuring the submission of grants from remote locations. In this instance, the BCP was used proactively to prevent an interruption in services due to the pandemic.

Before the coronavirus, the Spanish influenza pandemic of 1918–1919 was the last time a pandemic had a global impact on business and commerce. Johnson and Mueller (2002) and Taubenberger and Morens (2006) stated that the Spanish flu killed at least 50 million people and as many as 100 million worldwide. According to the World Health Organization (WHO) website, as of July 17, 2021, over four million people have died from the coronavirus (https://covid19.who.int/) and that number continues to increase. The coronavirus is a highly transmissible respiratory disease that started to infect people in 2019, thus named coronavirus disease 2019 or COVID-19 (Jiang et al., 2020). As the world began to learn more about this novel disease, it quickly spread throughout China and around the world. As it spread worldwide, organizations had to quickly make decisions regarding their workforce. According to De Brey, Snyder, Zhang, and Dillow (2021), in 2017–2018, there were 4,313 Title IV degree-granting institutions of higher education in the United States, and all were impacted by the coronavirus pandemic of 2020. Institutions

of higher education, because they typically have close living quarters and cloistered environments, present the opportunity for contagion. These organizations would need to determine how to keep their students and staff safe, all while being able to move classes online and ensure the continuity of work.

When the university decided to close on March 13, 2020, the OSPRS was working on three grant proposals including one multi-million dollar international project. The OSPRS provides full-service support to each principal investigator (PI). Our goal is for the PI/PD to focus on the content of the proposal while our office creates the application, completes forms, and develops the grant budget in collaboration with the PI. Prior to COVID-19, the office would schedule several in-person meetings with a PI to develop their budget and other grant-required documents. These are important pieces of the grant application; their omission would prevent the proposal from being submitted. As in-person meetings were no longer an option, the OSPRS had to transition to holding these meetings online via video conference. These video conferences were occurring several times per week, and some days three to four times per day, as visual communication is the preferred mode of communication. As these proposal documents were all electronic and saved to the server, employees were able to access the files and pick right back up when

the university transitioned to remote work, ensuring that the proposals could be finalized and submitted by their due dates.

Prior to electronic research administration (eRA), the OSPRS would receive a copy of the final proposal, make 10 or more copies of the proposal, no matter its length (some ran 300 pages or more); place all copies in a large cardboard box, and rush it to the local post office to be postmarked before the midnight deadline. That would have been a nearly impossible task during the pandemic due to the closure of several government buildings. As the field of research administration evolved and embraced eRA, it became apparent that electronic research administration activities, including the submission of proposals, needed to change. Gallaudet's sponsored programs office began embracing eRA and transitioning to being a fully functioning paperless office. This conversion was led by Dr. Christine Katsapis, the director of the office at the time. This change contributed to the office being able to transition to remote work quickly and effectively.

OSPRS was already a paperless office before the pandemic. This made going fully virtual possible when the coronavirus closed the campus. OSPRS staff were able to work from home effortlessly because they had the equipment needed to perform work tasks far in advance of its necessity. Prior to COVID-19 and in anticipation of an emergency at some point in time, the new

OSPRS Director, Audrey Wineglass Foster, made sure all OSPRS employees had access to a computer and would periodically ask employees to make sure their personal computers and/or university-provided laptops could access the server from home. As the Assistant Dean for Research, Dr. Katsapis , invested in purchasing office laptops and software. These laptops provided staff the ability to work from home in an emergency or to continue to work on grants outside of normal work hours. This was mainly to ensure employees had access to the same equipment and software so proposals could be submitted from home should something happen at work. But this practice served the office and the faculty well as COVID-19 shut down the university and ultimately the world. OSPRS did not miss a beat when it became apparent that universities and organizations worldwide would need to close. Using the BCP, OSPRS daily operations were swiftly, efficiently, and easily moved to working at home due to having access to the university server via the (1) remote access server, (2) electronic research administration platforms, (3) electronic signatures using AdobeSign, and (4) a paperless office in place. Having these four elements facilitated the sharing of documents and information for the successful submission of grant-related documentation such as grant applications and no-cost extensions affected by the

pandemic. These elements also allowed the daily operations of the office to continue without difficulty or interruption of services.

Telework at Gallaudet University was still relatively new when COVID-19 hit. Gallaudet did not have work-from-home or flex-time policies prior to 2018. Under the leadership of President Roberta J. Cordano, Gallaudet began looking at ways to provide a greater work-life balance for its employees. The work-from-home policy originally allowed employees three days per month; this was eventually increased to four days. This move towards improved work-life balance proved fortuitous, and largely contributed to Gallaudet's ability to go completely remote due to the pandemic with minimal adjustment. Ms. Foster, now Assistant Dean for OSPRS, encouraged employees to use these days each month, not only for work-life balance but also to test out how well the office could work from home when submitting proposals.

These work-from-home days provided employees with plenty of practice to prepare for a situation like COVID-19. As COVID-19 infection rates continued to rise in late February and early March of 2020, it became apparent that an actual closure of the campus was becoming a strong possibility. Ms. Foster made an executive decision to close the OSPRS one week earlier than the university to test out relevant parts of the BCP plan.

Hansen and Moreland (2004) used an analogy to the Roman god Janus to describe the field of research administration. Janus is the god of entrances and exits and is typically depicted as having two faces—one looking forward and one looking backward. In assessing the coronavirus situation, Ms. Foster had to look backward to assess BCP procedures to ensure that the office could continue service provisions during what was rapidly becoming a global pandemic. At the same time, she needed to look forward to the pending situation to keep her staff safe. This led her to decide to transition the office to remote work before the university closed. It is the Janus image "that metaphorically best describes how research administration can preserve its core values while responding to the pressures of change" (Hansen & Moreland, 2004, p. 44).

In keeping with the office's core values of providing services and support to Gallaudet faculty, staff, and students seeking funding for projects, the OSPRS also was balancing deadlines during the sudden upheaval of the world due to the implementation of self-quarantining mandates issued by local, state, and federal municipalities. The OSPRS was looking for best practices from the past while simultaneously looking at how to best implement them for the future.

Once Ms. Foster decided to close the office, she had to make sure each employee was ready to work from home by putting into practice the plan that had been laid out years earlier. It quickly became apparent that the original BCP was outdated and needed to be updated. The office was already in change mode as it had recently expanded and undergone a name change from the Office of Sponsored Programs to the Office of Sponsored Programs and Research Services. It was critical for Ms. Foster to know if current and new employees could properly transition to telework so that business could continue uninterrupted. One employee had already been granted permission to work from out of state due to a death in the family. That employee already had one of the office-issued laptops and access to the server in order to work remotely. The new employee, who had only recently joined the office and been on the job for just a few weeks, did not have the proper equipment or access to the server. After announcing that the university was closing, the university allowed employees to take home their office equipment and provided other equipment as needed to continue their work functions off-campus. Ms. Foster ensured that the new employee received all necessary equipment and facilitated communication with Gallaudet Technology Services when additional items such as wifi hotspots and access to the server were needed.

Technology Advancement

Prior to COVID-19, the OSPRS primarily conducted meetings in person and rarely used Zoom or similar video platforms to communicate visually. OSPRS began to rely heavily on email and particularly Zoom to communicate with both deaf and hearing faculty, staff, and students regarding grants. At a university designed for deaf, hard of hearing, and deafblind students, where visual communication is necessary, it was normal for the assistant dean to be on three or four short (30 minutes or less) video relay calls in a given day. As the pandemic persisted, video relay calls became instant messages and sitting in at least five or six, hour-long Zoom meetings daily.

The advances in technology made communicating with our DHHDB community much more effective. The BCP did not include technology such as Zoom because it was not widely available at the time of its development. Overnight, it seemed that the OSPRS had to pivot to using Zoom and become more acclimated to hosting meetings and communicating in our community's native language—ASL. The university purchased a premium Zoom subscription, allowing all employees with access and the ability to host meetings with no time restrictions. It quickly became apparent that Zoom would be the preferred form of communication. The usability and layout of the platform were more conducive to signed languages. For example, using the presentation mode impinged on or hampered visual communication more so on other platforms than on Zoom. Hosting a meeting on platforms such as Microsoft Teams or Google Meet with multiple people was challenging as it was hard to see the signer/speaker and the interpreter signing or voicing for the speaker at the same time. Using video conferencing software was also challenging as the software would regularly "freeze" during meetings, which is disastrous by itself but exacerbated when a meeting is conducted using signed language. The option to ignore the "freezing" and listen to the person on the call is not an option for many of our faculty, staff, and students. Often if an outside organization was hosting a meeting on Microsoft Teams or Google Meet, due to the challenges described above, the meeting would need to be discontinued and rescheduled with Gallaudet as the host using the Zoom platform.

As a visual language, ASL requires "face-to-face" interaction and often includes ASL to English and English to ASL interpretation. Conference calls may have been an option to facilitate communication for many; however, this technology does not accommodate the DHHDB community without interpreters being hired. A telephone conference call does not provide adequate or equal access to communication.

The nature of grant development and research administration is that work will

happen outside the traditional 8 a.m. to 5 p.m. work hours. It has always been advisable to have phone numbers (cellular and home) and multiple ways to contact faculty using, for example, Google Chat, email, video phones, etc. The more traditional ways of organizing work life that were included in the original BCP had become outdated. As previously stated, a Rolodex that was housed in the assistant dean's office was still being utilized. Today, the office uses Google Workspace services and has created a spreadsheet that lists information that was in the Rolodex. The spreadsheet is only shared and accessible by office staff. As the spreadsheet is housed on the Google server, all employees have access to the information where before it was limited and only accessible physically. Following the BCP, when telework began, the assistant dean brought home the old-fashioned Rolodex as a backup even though information is now readily available electronically. Having redundant access to this information was critical in preparing and submitting grant proposals.

LESSONS LEARNED

As we reflect on the BCP and observe its implementation during the 2020 coronavirus pandemic, we identified several lessons learned and updates needed to the BCP. Since face-to-face meetings were no longer an option, when communicating with an ASL user, it was imperative that a video platform system was used and one whose usability and layout were more conducive to the use of signed language. Zoom was the best option available to the OSPRS when meeting with faculty, staff, and students who were seeking grant funding and submitting grant applications in the midst of the pandemic.

The office also used a Video Relay Service (VRS) for small, less complex meetings. During meetings with individuals who were not fluent with ASL, the deaf staff member would participate in the meeting using VRS. This approach is more efficient for the office because it reduced the need for in-person interpreters and did not require scheduling meetings a week in advance to ensure that an interpreter was available.

As the office expanded from three persons, when the BCP was originally written, to a team of five, the importance of sharing contact information early and not waiting until a disaster became even more important. Employees exchanged contact information and a document was created and saved as a Google Document, listing each employee's contact information, including cellular telephone numbers and personal emails. This information may be accessed securely at any time from any place using cloud technologies. With the addition of two DHHDB employees, we recognized the need to modify the BCP to be more inclusive.

With the recent cyber and ransomware attacks, frequent backing up of data has become more imperative. OSPRS realizes that it needs to have multiple backup mechanisms. The original external hard drive has been augmented by a grants management system connected to an off-campus server and robust use of Google Drive. The office is now working with Gallaudet Technology Services to identify best practices in document and data storage and backup.

CONCLUSION

A plan in case of a protracted, campus-wide shutdown, extended blackouts, or cyberterrorism might have been viewed as being hyper vigilant prior to COVID-19. But now that the world's population has seen the entire planet impacted by the spread of a virus, creating a business continuity plan is both prudent and a priority. Knowing what we know now, failure to plan could be seen as negligence. Similar to the devastating massacre at Virginia Tech in 2007 that left 32 people dead and impacted security departments at universities and colleges across the country as well as federal legislation (Kapucu & Khosa, 2013), COVID-19 will impact the way universities and colleges handle crisis situations in the future.

In conducting this case study and reviewing the OSPRS BCP and how it was implemented during the 2020 coronavirus pandemic, we were able to use the

document written in 2011 to transition the office to remote work when the world essentially self-quarantined to remain safe and prevent the highly contagious disease from spreading. The BCP was not effective in its current iteration; however, the office was able to use the plan as a guide to ensure that office activities were not interrupted during the closure. Ms. Foster decided to send employees home one week before the university officially closed. One of the benefits of being a PUI is that it allows for quick changes and decisions, where a large university has more layers of hierarchy that require multiple levels of approval. Ms. Foster made the executive decision to send employees home early and ensured that all employees had the necessary equipment and access to continue working to meet grant deadlines. The normally three-person office was working on three grant proposals with one vacant position, one employee working remotely, and one new employee with no grants administration experience, all while in the midst of transitioning to remote work and dealing with a global pandemic. If the office did not already have the BCP as a guide, it would have been more challenging to transition to telework quickly. The office was able to quickly transition due to the university's telework policy enacted in 2018. When telework became available, Ms. Foster advocated for employees to work remotely in alignment with the policy to make sure that the office

could continue to work in the event of an emergency like COVID-19.

As OSPRS implemented its business continuity plan, it realized that the plan would need to be updated to reflect changes in technology and the addition of new employees who were deaf. These changes will be documented in the next version of the plan and will include lessons learned, such as the importance of having premium video hosting platforms such as Zoom to host meetings that include deaf, hard of hearing, and deafblind participants who use American Sign Language. We have also learned the importance of sharing contact information among staff as early as possible so we have multiple ways to connect. With the increase in cyberattacks, the OSPRS also realized that grant-related data need to be backed-up on a schedule so that if Gallaudet University's system was attacked, documents would still be available via the external drive and our grants management system.

Case studies are known for rich qualitative observations with subjective examinations of the subject, but they can sometimes lack generalizability. Since Gallaudet University is the only university in the world specifically designed for deaf, hard of hearing, and deafblind students, and is on the cutting edge of equal access to education, it remains a case study of one.

However, this case study provides information and steps that can be taken to develop and implement a business continuity plan for smaller institutions and any of those who may work with deaf, hard of hearing, and deafblind individuals, whether staff, faculty, or students. This one case also provides insights into how well the OSPRS was able to implement its plan. Whether an employee is at the department level or a senior administrator, tangible steps documented in a business continuity plan can be developed using this article as a guide.

Faced with cyberterrorism, a rise in the number of people who create a following on social media to instigate mass hysteria that goes viral, or weather patterns shifting so much that wildfires and flooding wreak havoc on entire communities (Srinivas, 2015), it is now prudent to prepare. "Failure to learn how to reduce the probability of failure as well as its consequences and how to shorten the time of recovery from a disastrous incident measures the resiliency of an institution and deserve a proactive approach for the protection of the institution and that community" (Kapucu & Kosa, 2013, p. 5). Universities should use the events of 2020 as a catalyst to develop a plan to prepare for the next work interruption.

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