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Business Continuity Planning for Nursing Schools

Preparation for Potential Disasters

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Nursing schools are vulnerable to disasters, ranging from pandemics to weather emergencies, fires, and acts of terrorism. To ensure minimal disruptions to teaching, provision of care, research, and other critical missions, nursing faculty and administrative leaders should develop a business continuity plan. The business continuity plan can help faculty, students, and administration identify critical functions and alternative plans if an emergency occurs. We offer our experience as a guide for other nursing schools.

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The United States has experienced a number of events recently that have disrupted work operations for many postsecondary educational institutions. These include the terrorist attacks in New York City, the hurricane in Mississippi and surrounding states, and even the significant winter weather experienced in 2015 in Massachusetts. These events are unpredictable and can have significant consequences for nursing faculty, students, and administration in education, research, and other missions of the school. Developing a business continuity plan that identifies key functions and prepares nursing faculty, staff, and students to operate using alternative plans can minimize disruption even during an emergency.

Most nurse educators are familiar with preparations for disasters in practice settings that have well-developed plans to respond to both external and internal emergencies. These plans are frequently updated and tested. The literature includes a significant number of articles on disaster preparedness of hospitals, long-term care facilities, and community agencies. However, few academic institutions such as schools of nursing have taken the same care in preparing for potential disasters that could disrupt their teaching, provision of care, research, and business operations. Cheung et al[1] conducted a survey of educational institutions on their preparedness for emergencies and disasters. Only 25% of the surveys were returned. Ninety-six percent of the responding institutions reported having a plan, but 10% had never practiced the plan and more than 25% had not had tabletop exercises. Only about one-half of the institutions discussed the disaster plan with students or faculty at orientation.

The Federal Emergency Management Administration (FEMA)[2] has proposed actions for developing a disaster-resistant university. The 4 phases of FEMA include organize resources; identify hazards; assess risks; and develop, adopt, and implement a mitigation plan. It is recognized by FEMA that advance planning is critical for adequate response during an emergency; this is true also for nursing schools. According to 1 group,[3] the 4 essential components of a well-developed plan for educational institutions such as nursing schools include the following: (1) preparation for a broad range of crises, (2) monitoring early warning signals associated with crises and often known in advance of an event, (3) a well-trained team skilled in managing crises, and (4) inclusion of internal and external constituencies in development and testing of the plan.

Our university experienced an emergency in January 2008. The College of Pharmacy had an extra-alarm fire with a level 2 hazardous material response. The fire occurred in a fourth-floor laboratory on an early Sunday morning; fortunately, there were no people in the building at the time. However, there was extensive smoke and water damage throughout the structure. Classes and faculty had to be relocated throughout the university, and the building remained unoccupied for more than 2 months. Even after those 2 months, research studies were not initiated until all research equipment was cleaned and tested. After the College of Pharmacy fire, administrators at the University of Illinois at Chicago required that all units on campus develop a business continuity plan. This experience identified each unit's strengths and potential weaknesses that would need to be addressed to prepare for a wide range of disasters. In this article, we describe the factors to consider in developing an effective business continuity plan based on our experience in the College of Nursing.

Developing the Team

It is important to identify key team members that represent the important functions in your nursing school. This should

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include information technology (IT), business processes, academic operations, faculty, staff, and perhaps even students. Although the university indicated what the plan was to cover, a team of individuals within the college developed the actual plan for nursing. In our college, the team was co-led by an associate dean and the staff member in charge of our facilities. Members of the committee included the college's Director of Information Technology, Associate Dean of Academic Affairs, Associate Dean of Research, and Assistant Dean of Business and Human Resources. Most aspects of the plan were under the control of faculty, staff, and administrative leaders in the college, with only a few initiatives dependent on other university systems.

Developing the Business Continuity Plan

In a large academic organization with multiple strategic initiatives, the planning process can be complex. Adequate time and resources need to be devoted to developing the plan, as well as addressing any remedial actions that are identified as necessary through the process. Software programs are available that can help you organize the process; however, they are not essential. There are a number of resources available on the Internet, as many academic institutions have shared their disaster management plans. In addition, the National Association of College and University Business Officers describe available resources for business continuity planning on their Web site.[4]

There are a variety of disasters and emergencies, and each requires a different response. For example, there may be a flood or a fire that causes damage limited to a specific building or area of 1 building. In this situation, the damage may not affect all of your nursing school's functions. Options may be available to relocate and/or adapt the affected functions; for example, students who are unable to attend clinical may be taught using simulation. In the case of a tornado, the damage may be so widespread that the entire institution and surrounding area are affected, and your operations may need to resume at a distance from your home building. A third scenario may be a situation such as a pandemic. Your building and infrastructure may not be damaged, but employees and students may be instructed not to gather in large groups. Also, a significant number of employees may be ill and unable to perform their work functions. As a business continuity plan is developed, different types of disaster scenarios should be considered.

Our team members worked with their respective staff members to analyze their work functions. Their goals were to identify areas in which the work of the school of nursing would be compromised if we experienced a disaster. They were to develop solutions for potential weaknesses or keep a list of problem areas that could not be addressed at that point in time. The actual development of the plan involved a number of individuals across the nursing program, including directors of our regional campuses, department heads, and the faculty in charge of the simulation laboratory.

Identify Core Business Functions

The first step in developing the plan is to identify the school's core business functions. These business functions will serve as the infrastructure for implementing the plan and the teams responding in an emergency. The functions may include administration, education, academic operations, human resources, IT, finances, facilities, and research. Another school may organize their plan using a different set of core business functions. The Table lists questions that schools can use to assess their readiness for a potential disaster.

Human Resources

The first priority of the core business functions in a disaster is to ensure the safety of all employees and students. Generally, campus police will be the first responders in an actual event and will provide direction on how to manage any situations that are unfolding. If an event occurs when most individuals are not on campus, it is helpful if the institution has a text/e-mail messaging system that alerts individuals to the situation. All current and future employees should be provided with instructions on how to sign up for the instant messages. It is also important to have multiple methods of contacting individuals in an emergency situation. Access to home and cell phone numbers and work and personal e-mails will ensure a wide range of options. This information needs to be securely stored using a system that can be accessed off-site in an emergency.

Long-term human resource issues need to be considered in the event that a situation requires working off-site for a longer period of time. It is important to have systems that allow continuous hiring and training of new employees. Steps in the process that require a potential employee to be physically present at a particular location or for a particular step in the process will present a barrier in the time of a disaster. Remote payroll processing is also critical for sustained functioning.

The ability to access and use multipoint video conferencing systems for group meetings is valuable in an emergency.

Table. Questions to Assess Readiness for a Potential Disaster

Human resources
Can you continue to hire and train employees using remote processes?
Can you process payroll from remote locations?
Do you have multiple ways to contact employees?
Have you established a system of contacts (telephone tree)?
Academic operations and teaching
Do faculty use a course management system for every course?
Do faculty have the software and skills to narrate and post a lecture?
Can admission staff process applications and make admission decisions with disruptions in their usual systems?
Information technology
Do employees have access to network or cloud technology for saving their files?
Are IT systems backed up regularly and back-ups stored remotely?
Can employees access their files from remote sites using secure systems?
Facilities
Do you have emergency supplies if employees are unable to leave the building?
What locations are available for classes if faculty and students cannot access the building?
Research
Is critical information stored electronically?
Does your building have a back-up generator if you are storing biological samples?

A number of commercially available systems can provide this type of support. In our program, we were comfortable using a video conferencing system because we have regional campuses off-site from the main campus. However, we identified a need to switch to a new conferencing system because faculty could not use Mac hardware to access the system.

Academic Operations and Teaching

The core mission of nursing schools is to teach. Any disruption in the operations of the academic arm of the nursing program can significantly affect student progression and graduation. However, few educational institutions have developed adequate plans to maintain access to courses in the event of a disaster. A study of the Web sites of flagship institutions in all 50 states found that two-thirds did not reference online classes as a method of continuing coursework.[5] Only 3 institutions provided actual guidance to faculty on how to prepare courses to be offered online in an emergency. The University of Washington has an academic continuity toolkit and a quiz for faculty to help them determine how prepared they are to teach using online resources if an emergency occurred.[6]

A fundamental requirement for an effective business continuity plan is the availability and use of a course management system (CMS). Faculty use a CMS for activities ranging from posting a syllabus and course materials to the full delivery of a course. A CMS is critical even for courses that traditionally meet face-to-face. In the event of an emergency, a CMS site gives faculty the ability to communicate with students and provide needed content.[7] Content management system sites are generally set up before the start of the semester. It would be difficult for faculty to initiate a course site in the CMS after an emergency because of the demands on the system and possibly their own inexperience; there should be a CMS site for every course faculty teach.

We identified that faculty members who taught graduate courses were more skilled using distance technology, whereas our faculty teaching prelicensure courses relied on face-to-face classes. We now encourage all faculty to post 1 narrated lecture each semester to ensure that they have the experience they need in case of an emergency. This also provides students the opportunity to confirm that their computer systems have the functioning software necessary to access the course materials.

Clinical courses can also provide a challenge. Many nursing schools use a variety of clinical settings. An emergency that affects 1 specific location may affect only a small number of students. In that situation, simulation experiences may be a substitute until another clinical site can be found. If the emergency affects all students, such as a blizzard, alternative strategies may need to be identified. This could include extending clinical hours once clinical practice is restarted. It might be important to think through the process of establishing contracts with potential institutions in advance of emergencies to ensure alternative sites for clinical placements. The goal is always to minimize the impact on students' ability to progress and graduate.

The solutions for ensuring that nursing courses can be taught during or soon after an emergency will vary depending on the type of classes and particular emergency. Faculty and administrators should consider alternative sites that could be used for classes that must meet face-to-face, such as laboratory-based courses. Other nursing schools in the vicinity may be an option or a hospital partner may have laboratory space that can be borrowed. The business continuity plan can be used to generate possible alternative space solutions that are executed if an emergency occurs.

Another critical function for the academic operations is the submission and processing of applications for school admission. This activity usually occurs during a short time frame. It is important to evaluate whether your institution will be able to continue to function through the admission cycle if any aspect of the chain is broken. This is particularly important because delay in admission decisions could result in students choosing other institutions. At our institution, the application submission process required significant efforts to revise to make the process consistent with our business continuity plan goals. We worked with a contractor to develop a new system that fed into the university administrative information system, reduced the number of hours that staff were engaged in downloads and uploads of application information, and allowed greater remote access.

Information Technology

The IT system is a critical function that must be working for operations to continue. Significant analysis should be devoted to assessing the strengths and weaknesses of IT. The IT system needs to be secure and backed up regularly (usually every 24 hours), the back-up stored at a remote site, and employees able to access all of their work products remotely.

The business continuity plan team should assess whether members of their team have the ability to work from a remote site. This includes access to both a computer and the Internet. In some organizations, this assessment occurs at the time of hire and is considered a requirement for employment. To access school systems remotely, organizations may require that Virtual Private Network security software be downloaded onto the computer. This requirement would prevent employees from using public shared computers such as those at public libraries. It is important to know in advance which employees would not be able to work remotely.

Individual employees may have special IT needs that should be identified in advance. For example, is specialized software installed on individual computers? Remote access generally requires that the remote computer also have college-wide standard software to run network-accessed files.

Many individuals have not established best practices in terms of backing up files on their computer. They continue to save files to the hard drives of their computers even though computers may experience issues such as the hard drive being corrupted. Policies should be established in advance on whether the institution will send computers to outside companies for repair (this may present Health Insurance Portability and Accountability Act and Family Education Rights and Privacy Act risks). Another issue is that faculty usually store their course materials and student data in folders and files that are not clearly accessible to other faculty members or administrators. In the case of a personal emergency, this hampers seamless transition of the teaching to other members of the team. Policies should be established on the appropriate location of course materials such as examinations, syllabi, grade books, and other important course materials.

Our nursing program identified a number of issues around IT that required long-term planning within the college as well as with the university. For example, we moved all of our servers to a site outside our building. This site had a higher level of security, 24-hour support, and remote back-up. We also moved from hosting our CMS at the university to having it hosted by the CMS company on their off-site servers to provide additional back-up for all course materials.

Records

Faculty and staff often have critical information in a variety of locations. Depending on the emergency, the information may be destroyed or inaccessible. Every individual should consider what he/she would have difficulty operating without and would regret if never accessing again. Institutions should consider what to do with information that is stored only on paper. This could include applications, immunization records, program plans, and students' achievements of particular competencies. Perhaps this is an opportunity to scan and save the documents in an electronic form. Even small items such as bookmarks of critical Internet sites saved on an individual computer may be essential to the faculty member. Multiple software programs allow you to save bookmarks, links, and passwords and access this information remotely.

Facilities

In the event of an emergency that prevents employees or students from leaving your building, you should designate a meeting space and provide that area with emergency supplies. This could include fresh water, food rations, first aid supplies, blankets, and other critical materials. A landline telephone designated for emergencies is essential if your primary telephone system is connected to computers.

If you are unable to occupy your building, you should consider all of the constituencies that need to be notified. For example, vendors that make regular visits to your institution to deliver or pick up supplies should be notified that your site is closed. This could include companies that supply bottled water, laboratories that pick up specimens, and companies that service your office equipment. Keeping a current list of vendors and contact information will facilitate quick notification.

As an institution, you will want to evaluate the supplies that you need to have on hand to ensure smooth operations. Consider that even an emergency at a geographic distance could cause disruptions in your supply chain. We experienced a longer than usual wait time associated with computer parts only to learn it was a result of an emergency situation in another part of the world. Within the past 20 years, communication and transportation across the globe have been hampered by a volcanic eruption in Iceland, a tsunami in Japan, and even a solar flare on the sun. Identifying critical supplies and always having a 2-month supply on hand are important.

Research

Every research study investigator should be required to develop an individual business continuity plan for each active study. This includes processes for managing the work in the event of an emergency. The action plans are then overseen by the administrator in charge of the research portfolio. The action plans should include an assessment of any areas of vulnerability in maintaining the integrity of the planned research.

Researchers who work with animals have additional issues to consider. If your nursing school has an animal facility, it is critical to have a plan for moving animals to other locations in the event of an emergency. Storage of biological specimens in freezers and the ability to access generators to maintain the integrity of specimens are important to identify in advance of an emergency. The presence and location of any potentially hazardous materials should be known to protect any workers who participate in clean-up efforts.

Researchers also should consider materials that are stored in only 1 location. This could include consent forms, historical documents, data and analyses, proposals, and reports. Certain types of material may be irreplaceable and have a devastating impact on one's scientific career if lost. Advance planning could mitigate these effects.

Action Items

During development of the business continuity plan, a number of items will be identified that cannot easily be resolved because of system barriers, lack of information, or lack of solutions. These issues can easily overwhelm completion of the process. Instead, a running list of action items should be kept, identifying the barriers that cannot be solved at the time of the plan development. Through this system, you will keep track of unresolved issues but continue to move forward with the plan. The action items should remain on the list until a solution is identified.

Implementation

After the plan is developed, the team should decide who should receive a copy of the plan. Aspects of the plan may contain sensitive and secure information and so should not necessarily be made public. However, appropriate aspects of the plan should be shared widely to prepare all individuals in the organization.

It is important to have a mock test of the plan. This will identify areas that need further development. We conducted a tabletop exercise with key members of the administrative team. The hypothetical event was a chemical spill that required some areas to be evacuated and other areas to be contained. The College of Nursing administrative team worked with university officials to describe what we would do at different points in the crisis. A process should be instituted for regular review and updates to the plan for each area. We work with the team to update each section of the plan each year.

Training

All faculty and staff in the college received training on strategies in the business continuity plan. The items covered included enrolling in the emergency notification system, converting work flows to systems that could be accessed remotely, and developing and testing methods periodically to offer classes remotely. This content is now included in new faculty orientation, and we are developing an online module for new faculty and staff to view at the time of hire. Employees also should undergo training about best practices for IT. For example, employees who regularly save their files

to the hard drive of the computer must be instructed on the use of network drives or cloud storage.

Conclusion

A business continuity plan is essential for all nursing schools. This blueprint will help faculty, staff, and administrators plan for potential disasters and identify weaknesses in systems that can be mitigated with additional preparation. A well-developed business continuity plan will minimize the effects of any emergency on a nursing school's missions of teaching (student progression and graduation), research, service, and business functions.

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