The COVID-19 pandemic has significantly challenged healthcare organizations across the globe, forcing innovation, resourcefulness, and flexibility. The purpose of this article is to describe the impact of clinical nurse specialist practice on COVID-19 preparation at a military hospital.

Environment of Care Changes:
The pandemic required facilities to develop expansion plans to facilitate a potential surge of COVID-19 patients. Clinical nurse specialists collaborated to develop a plan to expand care capacity and streamline testing while designating specific critical care and medical-surgical areas for COVID-19 patients.

Staffing Considerations:
To capitalize on the expanded bed capacity, clinical nurse specialists identified and trained outpatient nursing staff to serve as nurse extenders.

Discussion:
Early in the pandemic, a lack of strong evidence-based interventions to mitigate transmission and treatment necessitated the development of innovative solutions. The clinical nurse specialist team established designated transport routes for COVID-19 patients, leveraged technology to improve methods of care, and cultivated a culture of innovation by providing on-the-spot meaningful recognition to staff.

Conclusion:
As leaders in healthcare, clinical nurse specialists are change agents that work to maintain high-quality, safe patient care even during a global pandemic.

KEY WORDS:
Coronavirus, Pandemic, Clinical Nurse Specialist, Nursing
patient care, nurse and nursing practice, and healthcare systems are the 3 spheres of influence that perfectly position CNSs to be catalysts for change. This CNS team was an integral part of planning for expansion of clinical operations, surge capacity, identifying nursing staff needed to support patient care, and training these identified staff members.

ENVIRONMENT OF CARE CHANGES
The CNS team collaborated with the Infection Prevention and Control team, Facilities Management Division (FMD), and Environmental Services to use CDC Guidelines while leveraging available onsite resources and supplies/equipment to provide care for COVID-19 patients. The Infection Prevention and Control team evaluated plans for potential reuse and storage of personal protective equipment (PPE). Facilities Management Division experts provided key information about air exchange rates for airborne infection isolation (negative pressure) and nonairborne infection isolation rooms, and Environmental Services determined the best process regarding soiled linens, trash disposal, and terminal room cleaning. Operating in the healthcare system’s sphere of influence and collaborating with a multidisciplinary team were paramount in making rapid environment of care changes to the facility in preparation for COVID-19 patient care. Consideration in all of these environments had to be made for patients awaiting their test results or, PUIs, and patients with a known COVID-19 positive test result.

Emergency Department Expansion Plan
The MTF’s level 2 trauma emergency department (ED) serves as the frontline of defense against many pathogenic threats. The 26-bed ED includes a 2-bed trauma bay, four 4-bed treatment bays, and 8 private rooms that include 2 with airborne infection isolation. In addition, a 10-bed urgent care clinic is used for fast track patient care.

As the pandemic spread in the local region, ED leadership, including the ED CNS, implemented the most current and relevant CDC guidelines. Preparations consisted of ordering key medical supplies, specifically PPE, including N95 masks, gowns, gloves, and viral test kits. Additional preparations included workflow development and the establishment of specific treatment protocols. Patients who demonstrated COVID-19 symptoms and required treatment were expedited to an airborne infection isolation room and triaged at the bedside. To prevent cross-contamination and conserve supplies and PPE, procedure kits for COVID-specific treatment rooms were assembled and storage protocols for N95 masks were established. In conjunction with these changes, hospital executive leadership increased the hospital’s Health Protection Condition level.

This is a Department of Defense protocol for public health emergencies, with each level delineating a series of actions based on the specific risk (Table 1).

Although most patients presented with mild symptoms, the greatest challenge was logistically separating PUIs when initial testing required more than 3 hours to complete. Early in the pandemic, the average daily census increased from 187 to more than 200 patients per day. Differential diagnosis was complicated given the ongoing influenza season and symptom overlap with COVID-19. As such, it was clear that standardized workflows were needed to keep staff and patients safe.

The March 2020 CDC guidelines encouraged organizations to develop off-site testing sites for COVID-19. The initial approach was to conduct the viral testing of patients in their cars in the vicinity of the ED. If the patient was stable and positive for symptoms, they were isolated within their vehicles and instructed to park in a specific area. Staff wearing appropriate PPE would triage and test them accordingly from that location. Unfortunately, this method placed an unsustainable burden on the ED staff and led to inconsistent standards with testing. As such, there was a need to establish a centralized screening and testing area external to the main hospital.

To identify a more suitable off-site testing area, the CNS team collaborated with FMD and the Information Management Division (IMD) to use one-third of the ambulance garage to house testing teams of 1 to 2 registered nurses (RNs) and 1 to 2 combat medics. Combat medics are soldiers trained to administer emergency medical treatment to battlefield casualties. Their role in the testing area was to screen and swab patients and transport batches of tests back to the main hospital laboratory. In addition, screening forms, laboratory testing requests, and COVID-19 patient discharge instructions were developed. Although improved from the previous workflow, this was not a sustainable course of action either because of inadequacies in the garage, such as lack of an established anteroom for donning/doffing PPE, heat, and bathrooms.

To solve the dilemma of establishing an off-site testing area, mitigate staff burden, and standardize the screening process, the 50th Multifunctional Medical Battalion was tasked with establishing an Enhanced Screening and Testing Site on March 16 a half mile from the main hospital building. The site was constructed using military tents and was supported by both hospital staff and other local military medical staff and equipment. This was a large-scale mission that required collaboration with IMD, FMD, Hospital Security, the ED, and the Logistics Department. During the first 72 hours, the ED CNS conducted and supervised staff training and workflow development. This solution was integral to the success of the ED being able to maintain normal operations while minimizing the risk of exposure to staff and patients.

Critical Care Expansion Plan
The Critical Care Nursing Department consists of a 20-bed progressive care unit, two 10-bed adult medical-surgical intensive care units (ICUs), and a 5-bed pediatric ICU.
One of the adult ICUs was designated as the COVID-19 unit, whereas the progressive care unit and the second ICU were designated as non-COVID care settings. The post-anesthesia care unit (PACU), located directly across the hallway from the ICUs, is a 28-bed area that supports 14 operating rooms for elective and nonelective surgical cases and postsedation patients from interventional radiology and outpatient clinics. To maximize space and resources,

| Situation                                                   | HPCON                                                                                                                                                                                                 | Measures                                                                                                                                                                                                 |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Normal baseline                                             | 0 (normal operations) Routine: normal operations • Maintain standard precautions • Maintain good hand hygiene • Routine vaccinations • Adopt or continue healthy lifestyle • Routine health alerts and regular preparedness activities | ◦ Identify surge capacity and need for additional staff ◦ Ensure adequate supply of PPE ◦ Identification of mission essential personnel ◦ Yearly N95 fit testing and training for personnel involved in direct patient care |
| Report of unusual health risk or disease (limited local transmission) | A (health alert) + HPCON normal (consider establishing operational planning team) Limited: health alert • Communicate risk and symptoms of health threats to staff and community • Reemphasize avoiding contact with sick people, practicing proper hand hygiene, and cough/sneeze etiquette • Mask all patient who come to any treatment facility with fever and/or cough, other URI symptoms and isolate for further evaluation | ◦ Implement screening criteria, identify potential persons under investigation, and communicate changes ◦ Communicate to personnel how and when to report illness and seek care ◦ Develop hospitalization criteria and patient self-care in home algorithm ◦ Train and provide messaging to staff regarding PPE measures for both outpatient and inpatient settings ◦ Update messaging for cleaning of patient rooms, equipment, and EMS vehicles ◦ Develop critical supply list ◦ Establish burn rate, PACE items ◦ Monitor CDC, DoD, local health jurisdiction, and state health departments guidance ◦ Activated PM team to EOC ◦ Establish Patient Tracking ◦ Determine duty status for employees that are symptomatic |
| Outbreak or heightened exposure risk                        | B (strict hygiene) + all actions from HPCON Alpha (consider establishing a crisis action team) Moderate: strict hygiene • Continue to communicate risks to the community • Implement strict hygiene standards: no handshaking, wipe common-use items, mask staff and patients who have upper respiratory symptoms • If exposed, self-isolate at home if symptoms are mild or moderate in severity | ◦ Ensure dedicated 24/7 hotline/phone triage ◦ Implement triage protocol for staff and patients ◦ Implement active surveillance of exposed HCW ◦ Identify separate and controlled entry and exit points for staff and patients ◦ Identify sick call location for those who meet CDC criteria for being symptomatic ◦ Implement drive-through testing protocols ◦ Plan for contingency/crisis protocols |
| High morbidity epidemic                                     | C (social distancing) + all actions from HPCON Bravo Substantial: social distancing • Continue to communicate risks to the community • Implement social distancing, cancel community events and blood drives | ◦ Curtail routine clinical and elective surgeries ◦ Track and order critical medical supplies, request assistance if inadequate ◦ Consider impact on staffing levels in case of the shelter in place ◦ Acquire additional medical staff for surge capacity ◦ Limit direct clinical care; maximize virtual health ◦ Monitor need to implement Contingency Protocols |
| High mortality epidemic                                     | D (restriction of movement) + all actions from HPCON Charlie Severe: restriction of movement • Continue to communicate risks to the community • Follow JBLM-directed quarantine and isolation order • Assess and provide wellness measures for staff | ◦ EOC to operate 24/7 ◦ Enact palliative, mortuary affairs, and behavioral health support protocols ◦ Direct clinical care only where virtual not possible ◦ Minimal manning; implement weather/safety procedures ◦ Implement contingency/crisis protocols where necessary |

Abbreviations: CDC, Centers for Disease Control and Prevention; DoD, Department of Defense; EMS, emergency medical service; EOC, emergency operations center; HCW, health care workers; HPCON, Health Protection Condition; JBLM, Joint Base Lewis-McChord; PACE, primary, alternate, contingency, emergency; PM, preventative medicine; PPE, personal protective equipment; URI, upper respiratory infection.
16 beds in the PACU were initially selected to support a surge capacity of critically ill COVID-19 patients. Each patient bay was equipped with the same equipment available in a standard ICU with the addition of a ventilator. While the organization waited for additional ventilators, ventilators designed for battlefield use were borrowed from the 47th Combat Support Hospital. The critical care CNS was instrumental in training staff to become competent in using these battlefield ventilators.

As the PACU is an open bay area, restricting access to the unit was important to prevent cross-contamination. To address this concern, 3 PACU egress doors were blocked off to limit the area to 1 entrance/exit point. The organization’s FMD rapidly installed a floor-to-ceiling wall with a door to create an anteroom at the entrance to the bay to help prevent exposure to the outside hallway and provide a safe area for donning and doffing PPE. The peroperative CNS assisted to develop and revise workflow protocols for extended use or disinfection of N95 masks, donning and doffing PPE, and procedures for entering and exiting the unit.8

**Medical-Surgical Expansion Plan**

The Medical-Surgical Nursing Service consists of 3 units with a total bed capacity of 92 beds. One of the units was designated as the COVID-19 unit to limit the potential for cross-contamination between COVID-19 and non-COVID-19 patients and staff. An additional nursing unit previously used for a residential addiction treatment program was converted and equipped as an overflow COVID-19 unit.

The use of airborne infection isolation rooms for PUI or COVID-19-positive cases is recommended for containment of the virus, specifically for any patients undergoing aerosolizing procedures.2 Within the Medical-Surgical Nursing Service, there are 2 airborne infection isolation rooms on each of the 3 units. The overflow unit and the designated COVID-19 unit have a combined bed capacity for 62 COVID-19 patients with 4 available airborne infection isolation rooms. From conception of the plan to completion, the COVID-designated unit was modified for care in 12 hours and the overflow unit was ready for patient care within 10 days.

The rapid conversion of the overflow unit took extensive multidisciplinary collaboration between the MTF’s Logistics Department, FMD, and nursing staff. The equipment needed to create the overflow unit was obtained from multiple locations to include a licensed practical nurse (LPN) school skills laboratory, a simulation center, a local area Naval hospital, outpatient clinics, and existing inpatient areas. The engagement of the leadership team to accomplish this conversion was vital to its success.

The limited number of airborne infection isolation rooms in the facility demanded a solution for how to conduct COVID-19 patient care in nonairborne infection isolation rooms. Staff protection remained a priority in the development of policies and procedures for COVID-19 care. Using the Crisis Standards of Care Framework, PPE needs were predicted for contingency and crisis thresholds.3 Procedures for storage and reuse of N95 masks would allow frontline healthcare workers to continue to provide safe, high-quality care while maintaining their own safety.8 A solution was to maintain items with critical shortages such as N95 masks, safety glasses, COVID-19 testing kits, and hand sanitizer at the nursing station in a cabinet accessible by the charge nurse and assessed for par levels by nurse managers on a regular basis. Staff were instructed to reuse N95 masks for 1 shift and store them on hooks in the anteroom of the airborne infection isolation room or in designated cabinets outside the rooms of nonairborne infection isolation rooms.2 The methods for conserving PPE were communicated to all shifts using the organization’s COVID-19 intranet page.

Conservation of supplies required standardization of room set-up, PPE donning/doffing procedures, patient care supplies, and consideration for reuse of PPE. Two-way cabinets of supplies outside each patient room called Nurse Servers were emptied and locked from the inside to create PPE and N95 mask storage (Figure 1). Patient care equipment was also limited and standardized to limit contamination of unnecessary supplies. Beyond the room standardization, the donning and doffing of PPE had to be considered for the nonairborne infection isolation rooms to prevent the contamination of common workspaces. The lack of anteroom space challenged the team to develop new sequences for donning/doffing PPE, which were posted on the new airborne infection isolation signs (Figure 2).4

Within the first 24 hours of receiving the first PUI, a plan was needed for admitting both PUIs and COVID-19-positive patients. “Clean” and “dirty” teams were developed to limit the potential for cross-contamination between patients and staff. The “clean” team would care for PUIs, and the “dirty” team would care for known positive patients. In addition, a systematic approach was used to guide the admission sequence of patients onto the unit. Strategically placing patients in rooms and prioritizing airborne infection isolation rooms first assisted the charge nurse to appropriately assign admissions. Patients were admitted to single rooms first, but if necessary, known positive patients would be colocated in multipatient rooms. Persons under investigation would not be colocated in case one patient was positive and the other was negative. The changes made to the environment of care in the critical care section and the medical-surgical section increased the MTF’s bed capacity to accommodate 88 COVID-19 patients.

**STAFFING CONSIDERATIONS**

On the evening of March 13, Dr Jeff Duchin, public health officer in Seattle, tweeted that “All hospitals need to urgently
prepare for a surge in critically ill patients."1 The Society of Critical Care Medicine recommends staffing models that include non-ICU-trained healthcare workers to support expanded inpatient bed capacity.10 In the critical care staffing model, a trained or experienced critical care physician coordinates 4 physician-led teams that include 4 critical care advanced practice providers (anesthesiologist, nurse anesthetist, respiratory therapist), 2 ICU nurses, and 6 nurse extenders who are non-ICU nurses to provide intensive care for 10 patients requiring mechanical ventilation/vasopressor support.10,11 The critical care expansion plan for the MTF during crisis thresholds of care included care teams that consisted of 1 intensivist, 1 nurse anesthetist, 1 ICU nurse, 2 respiratory therapists, and 2 nurse extenders per 6 patients.9

The Society of Critical Care Medicine also recommends that staffing models for step-down and intermediate care wards would provide care for 36 patients per team not requiring mechanical ventilation or vasopressors but at imminent risk of requiring such support.10,11 To adopt this model at the MTF’s medical-surgical COVID designated and overflow unit, 4 teams would be led by an experienced hospitalist or intensivist to oversee a physician, physician assistant or nurse practitioner, 2 medical-surgical RNs, and 4 nurse extenders that are LPNs or nursing assistants (NA) per team to care for 18 or more patients.

**Staffing Resource Assessment**

Clinical nurse specialists are uniquely positioned to impact the quality of care provided by nursing staff. In the nursing practice sphere of influence, the CNS team capitalized on the opportunity to meet the staffing demands of the expansion models. Unlike most civilian hospitals, military hospitals are colocated with primary care and specialty care outpatient clinics, as well as community-based clinics. During this pandemic, outpatient appointments transitioned to telehealth medicine platforms, which decreased clinic staffing needs. The outpatient staff provided an invaluable resource as potential nurse extenders for inpatient areas providing care for COVID-19 patients.

The first task was to identify outpatient staff who may be able to serve as inpatient nurse extenders. Before nationally distributed frameworks for onboarding nurse extenders, the CNS team developed and distributed a nursing skills survey to all outpatient nursing staff. The intent of the survey was to identify the best qualified staff based on competency, experience, and specialty certifications to include Advanced Cardiac Life Support or Pediatric Advanced Life Support certification and experience with cardiopulmonary resuscitation. In addition, the survey identified staff with high-risk health conditions or who lived with someone with high-risk health conditions such as those described in CDC guidelines.12 Staff then filled out a self-assessment comprised of nursing skills for which they indicated never have performed, have performed but do not feel confident, or feel confident performing.

The nursing skills survey was distributed through department and service leaders and clinic supervisors. On return of more than 200 surveys, 17% were placed in a "crisis only" category for respondents with advanced age or high-risk health condition. Of the other respondents, 42% had inpatient medical-surgical nursing experience, 19% had critical care nursing experience, and 22% had maternal child nursing experience. The last 3 groups were further divided by RN, LPN, and NA roles. Within the final 3 groups, staff with recent inpatient experience were identified as the first cohort of nurse extenders.

While the outpatient clinics provided a substantial pool of nurse extenders, the CNS team used unique military resources as well. The MTF is located on one of the largest military installations in the United States and is home to the 1st Special Forces Group. The CNS team developed a plan to use Special Forces 18D medics to support the COVID-19 patient care mission in the ICU. These medics have completed a rigorous 1-year training program focused on advanced pathophysiology, pharmacology, and surgical skills required to provide trauma care for injured
soldiers on the battlefield.\textsuperscript{13} To practice as nurse extenders in the ICU, the medics accomplished a rapid onboarding process in collaboration with the credentialing office to be ready to provide care within 5 days.

**Skills Training**

The nursing skill surveys were reviewed by the CNS team and 9 basic nursing skills were identified for training (Table 2). Subject matter experts were recruited as instructors for a multidisciplinary training team. Clinical nurse specialists conducted mock codes for cardiopulmonary resuscitation using a high-fidelity simulation mannequin. Physical therapists provided instruction on safe patient handling to include patient transfers using ceiling lift equipment and safe ambulation with a gait belt and front wheel walker. Respiratory therapists reviewed oxygen therapy and delivery devices. Infection prevention nurses demonstrated correct donning and doffing of PPE and COVID-19-specific policies and procedures. Staff nurses provided expert instruction for venous access devices and enteral feeding and tube maintenance, whereas experienced NAs were instrumental in postmortem care training. Nurses with critical care experience and Special Forces medics received additional training in ventilator familiarization and manual prone positioning by respiratory therapists and the critical care CNS.

Training was conducted on the nursing unit dedicated as the overflow COVID-19 unit as no patients had been admitted to that location. To maintain social distancing requirements and avoid large groups, the training was conducted in three 8-hour sessions over 3 days. Each skill station was set up in a patient room to provide simulated hands-on training experience. A total of 127 staff members completed the training, and of those, 33 volunteered to be the first nurse extenders that would be assigned to an inpatient area when needed.

In congruence with the CDC recommendation that leaders engage staff to ensure worker safety and support,\textsuperscript{14} one of the organization’s senior nursing leaders addressed the groups to explain the purpose of the nurse extender role, what they could expect if they were assigned to an inpatient area, and answered questions to help allay...
Lastly, all nurse extenders were provided electronic health record training. The CNS team collaborated with IMD to choose appropriate online modules to familiarize the nurse extenders with inpatient documentation. After the training, the staff were ready to perform as nurse extenders if needed. The physical transformation of the environment of care, combined with 127 trained nurse extenders to help take care of patients, completed efforts to safely handle COVID-19 patient surges.

**DISCUSSION**

As the MTF continued to receive patients, the CNS team worked within the 3 spheres of influence to evaluate and reevaluate the environment of care, updated guidance from external and internal sources, and staff training. In reflection on the initial preparations, some key takeaways were identified. The goal through this discussion is to assist other organizations to reflect on their own resources and capabilities to facilitate rapid changes in healthcare environments and how CNSs are best qualified to implement these innovations and changes.

Similar to other pandemics, COVID-19 significantly challenged the organization's leaders to be innovative, resourceful, and flexible because of the uncertainty of the virus's impact on the nation's healthcare system and resources. Early recognition of the uncertain impact that a pandemic has on a hospital's capacity to provide care requires collaboration with various hospital services and is imperative to identify, modify, and adapt patient care areas to accommodate patient expansion plans. However, the lack of strong evidence-based interventions to mitigate the transmission of the virus or treat the virus prompted efforts to develop solutions. Commensurate with other pandemics, a vaccine had not been developed yet and treatment protocols were emerging. Therefore, early engagement and utilization of resources allowed the organization to expand patient capacity, stay ahead of the predicted patient surge, mitigate cross-contamination, and proactively develop contingency operation plans. After implementation of the original strategies and plans, the need to modify those plans became evident when COVID-positive patients and PUIs were admitted to the organization. Fortunately, the organization did not have to use the critical care surge plan.

The organization's leaders leveraged the power of technology to establish clear lines of communication to ensure that changes to policies, procedures, and protocols were consistently shared with staff. Text messages, emails, organizational intranet sites, and even social media were designated platforms for communication. Leveraging technology for transparent bidirectional communication facilitated trust between leaders and staff, engagement, and potentially mitigated clinician stress. Although this initiative had a positive impact and ensured staff and patients were provided up-to-date information, a

| Topic | Items Covered |
|-------|---------------|
| Introduction and Welcome | Welcome Bathroom/lunch breaks Social distancing Resources |
| Alaris Pumps | Scavenger hunt Syringe pumps PCA |
| Vascular Access | Specimen collection CVC dressing/blood sampling |
| Remote Telemetry | Electrode placement Battery change |
| Mock Code | Zoll defibrillator Roles |
| Nutrition Care | Flushing Medication administration Kangaroo pumps |
| Postmortem Care | COVID policy/postmortem care |
| Oxygen Delivery | O2 delivery/tanks O2 regulators |
| Safe Patient Handling | Lift System Active/passive ROM Gait belt FWW |
| Isolation Precautions | Donning/doffing PPE Patient transport CHG bathing CAUTI prevention |
| Ventilator Familiarization and Manual Proning Exercise | **Critical care nurse extenders only** ** |

Abbreviations: CAUTI, catheter-associated urinary tract infection; CHG, Chlorhexidine Gluconate; CVC, central venous catheters; FWW, front wheel walker; PCA, patient controlled analgesia; PPE, personal protective equipment; ROM, range of motion.}

Concerns and fears. They were thanked for their participation and welcomed to the Inpatient Nursing Service. The attendees were then divided into groups of 5 or less for the skill station training and rotated through the stations in a round-robin format.

At the end of the training, participants completed a training evaluation. A total of 119 evaluations were completed and returned. The feedback questionnaire included 3 Likert scale questions and 2 open-ended questions regarding the skills training. The feedback was overwhelmingly positive, with 95.7% of respondents answering that the training was helpful. In addition, 94% reported that they received new information about performing skills during the training. Moreover, 78% agreed that the training helped increase their confidence for performing as an inpatient nurse extender and 88% thought the topics were applicable for the care they may be asked to perform as a nurse extender. Several nurses requested the training annually for outpatient nurses.
restricted visitation policy created a barrier for patients to communicate with their family members and had not been considered. This lack of ability for patient/family communication became distressing for patients, family members, and staff. Ongoing plans to address this are to use staff or patient cell phones to allow family members to see or speak with them. The CNS team collaborated to implement other virtual platforms to improve communication and eliminate the barriers of restrictive visitation policies.

An important aspect of providing care and preventing the transmission of the virus was identifying designated interfacility patient transport routes for COVID-19 patients or PUIs. In previous pandemics, the only recommendations were for transport of positive patients via ambulance; however, there are limited recommendations for internal transport of positive patients to designated COVID-19 units and diagnostic testing areas. To address this concern, the team collaborated to develop a plan to assign 1 elevator for the transport of patients. To prevent cross-contamination during patient transport, an additional staff member traveled with the transport team to assist with doors and elevator buttons and to ensure transport routes were clear of other patients and staff. These transportation plans fell short during emergency situations because using the designated elevator was inconvenient and could delay care or increase the chance for cross-contamination because of longer transport routes. To address this concern, the elevator most conveniently located near the patient care unit would be used for emergencies. For example, unstable COVID-19 patients admitted to the ICU from the ED would be transported using the shortest route to the unit instead of the designated elevator.

Innovative thinking and flexibility were key to adapting to rapidly changing environments aimed at limiting the spread of the virus to other patients and staff in the organization. Historical lessons from the Spanish flu highlight the importance of protective equipment for staff to prevent virus exposure and transmission. Clinical nurse specialists collaborated with hospital leaders to identify methods to clean and store PPE to ensure that enough PPE remained available to protect staff during patient care. Although these plans were effective to limit cross-contamination and ensure that there was enough PPE for staff, CNSs observed variances in practice for cleaning and storing PPE for rooms with or without an anteroom. On-the-spot training was conducted to address the variances in practice. In addition to the original protocols, the perioperative CNS instructed nurses on how to use ultraviolet technology to conduct a final cleaning for COVID-19-positive patient or PUI rooms, to further mitigate possible transmission of the virus.

To encourage a culture of innovation and flexibility, hospital staff were frequently recognized on the spot in front of colleagues and peers for innovative solutions and ideas. Outstanding work was recognized by local hospital leadership and by senior Army officials. Clear communication and meaningful recognition are significant to the success of hospitals in the uncertain times of a pandemic.

The organization capitalized on the CNS’s expertise and expansive influence to implement rapid, clinically sound changes. The CNS team rose to the challenge of a global pandemic by assessing, innovating, and implementing a myriad of system-wide changes including technology platforms, transmission reduction strategies, and environment of care modifications. The CNS team had the opportunity for real-time evaluation of those plans and made appropriate modifications to ensure the delivery of safe patient care and optimize patient outcomes.

CONCLUSION

In preparation and response to the global COVID-19 pandemic, CNSs lead evidence-based decision-making processes within organizations. Early predictions of facility needs and the willingness of leadership to support change and adaptations to current practices are imperative in disaster preparedness. In collaboration, the CNS team rapidly implemented facility changes by expanding the organization’s COVID bed capacity to 88 beds, implemented environment of care changes to accommodate PPE and equipment usage, and trained 127 outpatient nurses to serve as nurse extenders to help the facility stand ready to care for patients and their families.

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