

**Guidelines for Providing Nursing Care
during the COVID-19 Pandemic**

April 9, 2020

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Situation

On January 21, 2020, the Centers for Disease Control and Prevention (CDC) confirmed the first case of 2019 Novel Coronavirus (2019-nCoV)¹ in the U.S., in Washington state. The virus, which first started in Wuhan, China, causes a respiratory illness. Case volume has been growing locally, nationally, and internationally. As of April 2, 2020, over 236,000 Americans have contracted this virus with over 56,000 fatalities (Johns Hopkins University Center for Systems Science and Engineering, April 2, 2020). As the pandemic grows, shortages in beds, supplies and healthcare staffing are anticipated (CDC, n.d.).

Background

The ability of a healthcare system to respond to an event is dependent on having adequate space, supplies/equipment and staff. The American Hospital Association (2020) projects that as many 1.9 million patients will be admitted to a critical care unit during the COVID-19 pandemic and 960,000 will require ventilator support. The Society of Critical Care Medicine reports that ICU trained physicians, nurses, and other healthcare staff resources will be in short supply (Halpern & Tan, 2020). Successful management of critically ill COVID-19 patients will be dependent on effective and efficient use of available resources.

When large scale emergencies or catastrophic events occur, hospital capacity may trend along a continuum of conventional, contingency and crisis capacity (Christian et al., 2014; Hick, Barbera, & Gabor, 2009). Critical care unit capacity may be most affected (Singhal et al., 2020, March 30). Conventional capacity reflects a 20% increase in baseline capacity, which most critical care units can accommodate somewhat seamlessly. Contingency capacity occurs when the critical care units require approximately 100-120% more beds. When demand for critical care capacity reaches greater than 150-200%, crisis capacity is reached. Capacity may fluctuate depending on availability of staff, supplies and space (Christian et al., 2014; Hicks et al., 2009.) (Appendix A).

Assessment

The COVID-19 pandemic may require MedStar Health facilities to use contingency/crisis standards of care for staffing, supplies and space. Licensed and unlicensed nursing and other healthcare personnel may be reassigned to critical care units and practice under the supervision of experienced critical care nurses. Supplies may be constrained, and usual spaces, such as medical-surgical units and PACUs, may be transformed into critical care units.

Recommendations:

1. Adopt a team-based model of nursing care delivery when critical care unit capacity reaches contingency or crisis levels.
 - a. Use additional licensed and unlicensed assistive personnel to increase the capacity and capability to provide care for a large group of critically ill patients.
 - b. Apply the Society of Critical Care Medicine tiered staffing model for a pandemic (Appendix B). The model depends on redeployment of personnel to accommodate critically ill patient needs and is adjusted to the demands for critical care using the available supply of personnel.

¹Now known as Acute Respiratory Distress Syndrome (SARS CoV-2)

2. Augment Nursing Staff Resources as available:
 - a. Identify and redeploy nurses with recent (within 18-36 months) or prior critical care experience (Martland et al., 2020; Santora, 2020, March 26). These individuals may include advanced practice nurses and nurses in procedural areas (e.g. post-anesthesia care unit, cardiac catheterization lab, electrophysiology lab, MedStar transport and operating room).
 - b. Identify and redeploy nurses in intermediate care units (e.g. progressive care, telemetry, or stepdown units) to contribute to a team-based model of care with the guidance and expertise of experienced critical care nurses.
 - c. Identify and redeploy pre-hospital personnel (e.g. paramedics & EMT) and in-hospital personnel (e.g. patient care technicians) with critical care unit experience.
 - d. Identify and redeploy experienced medical-surgical nurses with ventilator experience.
 - e. Identify and develop roles and responsibilities of RNs to serve as RN extenders in the critical care unit (Appendix C).
 - f. Identify, redeploy and develop roles and responsibilities for licensed (e.g. outpatient OT/PT) and unlicensed personnel who may be redeployed to the critical care unit (Appendix D).
3. Apply nurse staffing guidelines to optimize capacity and care.
 - a. Determine conventional, contingency, and crisis staffing models (Appendix E).
 - b. Assume flexibility will be needed as the patient census, acuity and staffing resources vary on a shift to shift basis.
 - c. Support team members work to the highest level of their scope of practice.
 - i. The critical care nurse team leader will work with the non-critical care team members to identify appropriate tasks and responsibilities for each team member. Examples include paramedics performing intubation, IV starts, and nebulizer treatments.
 - ii. RNs without critical care experience could be utilized to document vital signs, administer medications, monitor vital signs, complete complex wound care, serve as scribes, and assist with proning and other patient care activities.
 - d. Identify a cohort of critical care nurses and medical surgical nurses to form a team, who will share the same schedule (Veenema et al., 2020).
 - e. Introduce medical-surgical nurses to critical care nurse leaders, charge nurses, and other staff to the critical care unit environment (e.g. breakroom, bathrooms). (Appendix D).
4. Consider and apply other elements observed in catastrophic events and from others caring for Covid-19 patients.
 - a. Identify critical care units that will be dedicated PUI/Covid+ units, as feasible (Veenema et. al, 2020).
 - b. Designate and/or add negative pressure rooms or use of “scrubbers” in these units.
 - c. Organize and conduct team huddles regularly (Provost et al., 2015) and at a minimum at the beginning of each shift, and ideally, at 4 hour intervals (Martland et al., 2020).
 - i. Review team assignments, patient condition/changes in patient condition, transfers, admissions, patient care goals, and expected treatments (e.g. ventilator weaning; proning).
 - ii. Reinforce reporting critical or “red flag” events immediately to the critical care team leader (e.g. vasopressive infusion volume low or line alarming; change in oxygen saturation following proning).
 - iii. Offer opportunities and encourage staff to voice major concerns (Pronovost et al., 2015).
 - d. Consider means to enhance communication when multiple patients are on isolation (e.g. walkie-talkies and/or baby monitors) (Veenema et al., 2020).

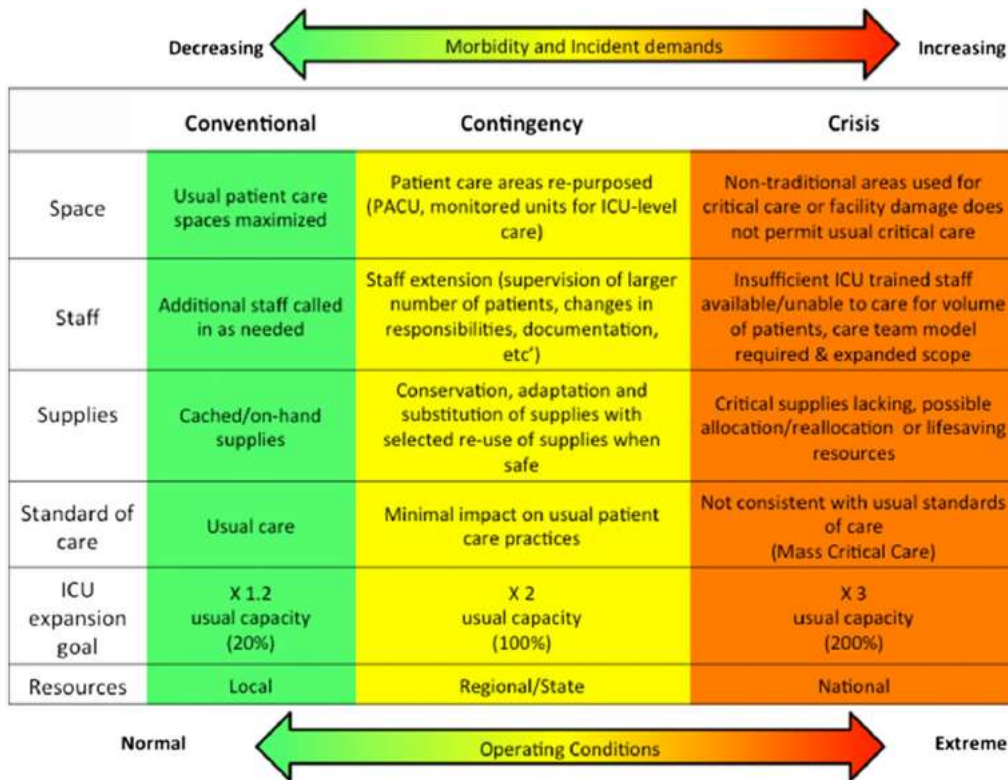
- e. Designate an individual on the team to serve in a “safety officer role” to monitor and ensure appropriate PPE use to reduce staff exposure risk (Martland et al., 2020).
- f. Designate an individual to serve as a runner to obtain medications, supplies and equipment as needed. This individual would also ensure that equipment is thoroughly cleaned between patients (e.g. WOWs, stethoscopes, infusion pumps, feeding tube pumps, defibrillator).
- g. Provide each new team member with a standardized orientation to ensure compliance with pertinent policies and procedure (Assistant Secretary for Preparedness and Response Technical Resources, Assistance Center, and Information Exchange [TRACIE], 2017; Martland et al., 2020).
- h. Develop a list of duties/tasks for critical care nurse extenders (Appendix C).
 - i. Offer just-in-time training (Joshi, 2013; Marjanovic et al., 2007; Martland et al., 2020).
 - ii. Topics include the following:
 - a) COVID-19 symptoms, transmission and patient management
 - b) Donning and doffing of PPE
 - c) Critical care documentation in MedConnect
 - d) Mechanical ventilation principles and use
 - e) Code blue resuscitation and RRT procedures
- i. Leverage remote and e-ICU monitoring technologies where available (Mantos & Chung, 2020).
- j. Minimize PPE use and exposure by clustering nursing care.
- k. Consider the use of IV pumps outside the rooms (Veenema et al., 2020).
- l. Provide ongoing access to mental health support (Martland et al., 2020).
- m. Continue frequent leader rounding to provide staff support. Address staff concerns about psychosocial issues and working conditions (Marjanovic et al., 2007; Martland et al., 2020; TRACIE, 2017).
- n. Provide meaningful recognition of staff at regular intervals during the surge (Marjanovic et al., 2007; Martland et al., 2020; TRACIE, 2017).

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Appendix A: Conventional, Contingency, and Crisis Response Model



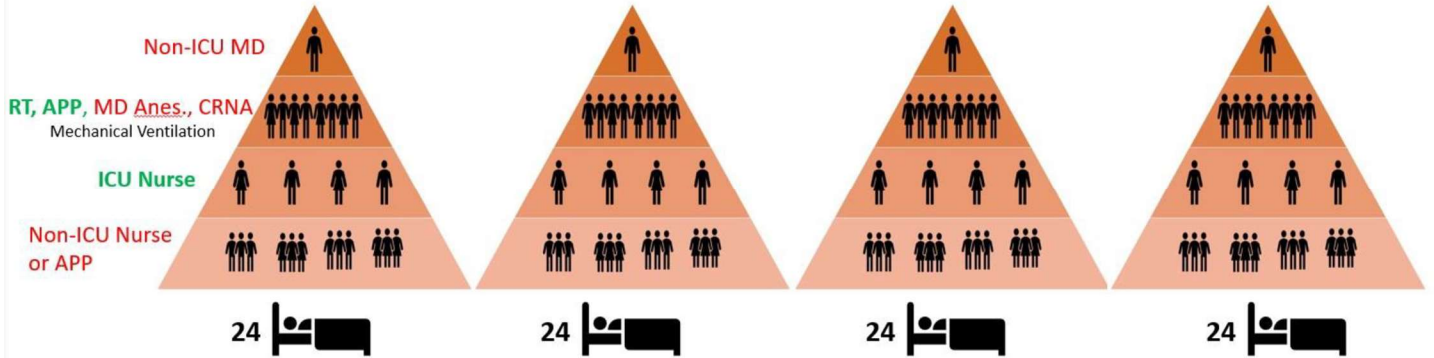
From: Christian, M.D. et al. (2014). Introduction and executive summary. Care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. *Chest*, 146(4), 8S-34S. DOI: 10.1378/chest.14-0732.

Appendix B: Tiered Staffing Strategy for a Pandemic

Tiered Staffing Strategy for Pandemic Requiring Significant Mechanical Ventilation



Intensive Care Trained MD



Modified from the Ontario Health Plan for an Influenza Pandemic Workgroup. *Critical Care During a Pandemic*.
http://www.cidrap.umn.edu/sites/default/files/public/ohp/21/21_report.pdf. Accessed October 2013

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Appendix C: Sample Roles and Responsibilities of RN Nurse Extenders* in the Critical Care Unit

1. Patient Care

- a. Listen to report with Critical Care Team Leader.
- b. Act as a scribe for the Critical Care Nurse Team Leader completing assessment. Document in MedConnect. (May need to complete via nurse call, walkie-talkie, baby monitor, Vocera.)
- c. Validate vital signs from invasive monitor in MedConnect.
- d. Monitor vital signs and continuous infusions for Critical Care Nurse Team Leader and notify of changes from expected range.
- e. Report alarms to Critical Care Team Leader.
- f. Assist in urgent and emergency clinical situations.
- g. Perform activities of daily living (ADL) including bathing, turning, wound care, oral care, measuring of input and outputs (I&O), inserting Foley catheters, changing enteral nutrition bags, inserting naso/orogastric tubes, change PIV and central line dressings.
- h. Obtain, document and report AccuChecks.
- i. Assist with transporting patients to MRI, CT, other diagnostic tests or another unit.
- j. Assist Critical Care Team Leader and/or provider with making calls to patients' families and/or use iPad (if available) to help patient FaceTime with their family.

2. Medication Management

- a. Administer medications as delegated by the Critical Care Nurse Team Leader and within the scope of practice. This includes:
 - i. Intravenous push (IVP) medications, IV antibiotics, oral medications
 - ii. Managing high alert medications such as insulin drips.
 - iii. Does not include titrating continuous infusions of vasopressors, antiarrhythmics, or sedative medications unless RN has recent critical care experience.
- b. Scan and document medications.
- c. Ensure medications are adequately stocked from the pharmacy; retrieve medications from the pharmacy as needed.
- d. Call pharmacy as requested.

3. Laboratory

- a. Scan lab orders.
- b. Start intravenous access.
- c. Obtain specimens for laboratory analysis.
- d. Perform glucose testing with Accu-Check monitor and treat as per protocol.

4. Infection Prevention and Waste Management

- a. Maintain all standard, contact, droplet, airborne and enteric precautions.
- b. Disinfect face shields, goggles and other equipment as requested.
- c. Disinfect high-touch and common areas such as door handles, conference room table, WOW keyboards, mouse, counters, chairs and armrests, unit door push buttons, phones.
- d. Ensure patient rooms are free of used linen, trash and hazardous and infectious wastes.

5. Supplies

- a. Check empty rooms and supply with ECG cables/electrodes, pulse oximetry cable.
- b. Provide supplies as requested by Critical Care Nurse Team Leader.

- c. Ensure adequate supplies are available in stock rooms or carts and procure from materials management as needed.
- d. Ensure adequate PPE are available.
- e. Remove clutter from room and hallways.

* RNs who are not normally providers of nursing care in the critical care unit will perform duties to support the critical care nursing staff. They will perform duties under the direction and supervision of the Critical Care Nurse Team Leader.

Appendix D: Sample Roles and Responsibilities of Unlicensed Personnel in Critical Care

1. Admission and Discharges
 - a. Assist with admissions, discharges and transfers.
 - b. Account for patients' personal belonging.
 - c. Assist in post mortem care.
2. Medication Management
 - a. Obtain or return pharmacy medications when needed.
 - b. Notify RNs if IV bag volume is low or IV pumps are alarming.
3. Vital signs and Measurements
 - a. Obtain vital signs and pulse oximetry. Report changes to RN.
 - c. Perform and report results of glucose testing with Accu-Check monitor.
 - d. Measure intake and output.
 - e. Collect urine and stools specimens.
4. Patient Care
 - a. Assist with ADLs including bathing, turning, wound care, oral care, maintaining Foley catheters, changing tube feed bags.
 - b. Assist in repositioning and use of safe patient handling and mobility equipment
 - c. Provide nutrition support by setting up trays and assistance with feeding.
 - d. Listen for and respond to call lights. Note: RN may use the nurse call system to communicate needs while in an isolation room.
 - e. Assist as directed in emergency situations including fire, codes, disaster, and security situations.
5. Infection Prevention and Waste Management
 - a. Maintain all standard, contact, droplet, airborne and enteric precautions.
 - b. Disinfect, face shields, goggles and other equipment as requested.
 - c. Disinfect high-touch and common areas such as door handles, conference room table, WOW keyboards, mouse, counters, chairs and armrests, unit door push buttons, phones.
 - d. Ensure patient rooms are free of used linen, trash and hazardous and infectious wastes.
6. Supplies
 - a. Provide supplies as requested by RNs.
 - b. Ensure adequate supplies are available or procure from materials management as needed.

Appendix E: Sample Guidance for Critical Care Unit Contingency and Crisis Staffing

Guidelines for Nurse Staffing	
<i>Contingency Standards (>100-120% typical critical care unit capacity)</i>	
Patient Assignment	Nursing Team Composition
3 patients*	1 Critical Care RN Team Leader 1 RN with prior critical/intermediate (IMC)/stepdown (SDU) experience 1 shared Clinical Technician
4 patients*	1 critical care RN Team Leader 1 RN with prior critical care/IMC/SDU 1 Medical-Surgical RN or Clinical Technician
<i>Crisis Standards (>150-200% typical capacity)</i>	
5-6 patients*	1 Critical Care RN Team Leader 2 RNs with prior critical care/IMC/SDU experience 1 shared Clinical Technician
7-8 patients*	1 critical care RN Team Leader 2 RNs with prior critical care/IMC/SDU experience 1 Medical-Surgical RN 1 shared Clinical Technician

*Clinical technician is used synonymously with care associate and certified nursing assistant and indicates unlicensed personnel.