Shortage of ICU Providers Who Can Operate Ventilators Would Severely Limit Care During COVID-19 Outbreak
SCCM Report Provides Solution for Expanding Healthcare Workforce

MOUNT PROSPECT, Ill — March 13, 2020 — The profound shortage of intensivists and other ICU healthcare workers available to operate mechanical ventilators during a pandemic will be one of the most significant hurdles facing U.S. hospitals poised to treat critically ill COVID-19 patients. Hospitals need to proactively make plans now to maximize critical care services, which include reallocating healthcare workers and recognizing the need for canceling elective surgeries. The newly released report from the Society of Critical Care Medicine (SCCM) updates key statistics not previously published and puts this pandemic into context, discussing crucial resource availability for treating COVID-19.

Severe hypoxic respiratory failure requiring mechanical ventilation is the most common reason COVID-19 patients are admitted to the ICU. The report notes that while more than 200,000 mechanical ventilators may be available in the United States, the number of intensivists, advance practice providers, respiratory therapists, and nurses trained to safely operate mechanical ventilators effectively limits the number of patients who can be ventilated to about 135,000. Mechanical ventilation of a fragile patient is rather dangerous if provided by someone other than these trained ICU professionals, which is why mechanical ventilation is not typically done outside of the ICU.

“Since the outbreak, there has been a focus on beds and mechanical ventilation equipment – while these resources are important, they are useless if you do not have trained healthcare professionals who are at the bedside to care for the patient and use the ventilator,” said Lewis Kaplan, M.D., president of the Society of Critical Care Medicine. “The tiered staffing guidance detailed in the report helps hospitals be prepared to handle a large influx of critically ill patients.”

A recent projection from the American Hospital Association (AHA) estimates that in the United States 4.8 million patients will be hospitalized, 1.9 million will be admitted to the ICU, and 960,000 will require mechanical ventilation.

The new SCCM report provides an integrative solution to help hospitals expand their capacity to treat COVID-19 patients, as well as other patients requiring complex ICU care. This approach includes canceling elective surgeries and reallocating healthcare providers such as pulmonologists, anesthesiologists and nurse anesthetists who have critical care training and experience with ventilators (often used during surgery) but who don’t work in the ICU.
The report notes that while the United States has significantly more critical care beds per person than any other country, COVID-19 could exhaust critical care resources leading to shortages and higher death rates unless hospitals plan ahead by implementing these recommendations.

The staffing guidance is included in the new report, which provides previously unpublished statistics on critical care resources available in the United States as hospitals prepare for a potential influx of critically ill patients related to the COVID-19 pandemic.

The SCCM report includes the most current data and estimates of ICU resources available for COVID-19:

- Ventilator supply estimates suggest more than 200,000 ventilators may be available in the United States:
  - U.S. acute care hospitals own approximately 62,000 full-featured mechanical ventilators, and 98,738 older, more basic models.
  - The Strategic National Stockpile (SNS) has an estimated 8,900 ventilators available for emergency deployment.
  - Additional supply can come from state stockpiles, older ventilators kept by hospitals for emergencies, modern anesthesia machines capable of ventilating patients and other sources.

- There are fewer than 50,000 intensivists in the United States and the shortage of these physicians, advanced practice providers, respiratory therapists, and nurses trained in mechanical ventilation would limit the maximum number of ventilated patients to approximately 135,000.

- 48% of acute care hospitals do not have critical care physicians on staff. The report provides recommendations for realigning resources to ensure patients receive the appropriate level of care.

- Hospitals should employ a tiered staffing strategy to expand the number of trained professionals who can both mechanically ventilate patients with COVID-19 and care for other critically ill patients.
  - Under this strategy, one intensive care trained physician oversees four non-ICU physicians, who in turn oversee 24 providers. Eight would run the ventilators, including respiratory therapists who provide this care regularly as well as physician anesthesiologists and certified nurse anesthetists who don’t typically provide this care but have critical care training and experience with ventilators. Four ICU nurses would be supported by 12 non-ICU nurses.

- Increasing the number of professionals trained in ventilation will help with future outbreaks.

“Public health efforts to slow the spread of COVID-19 and limit the number of people who need critical care at any given time, in combination with hospitals employing novel approaches to care including SCCM’s tiered staffing strategy will save lives,” said Dr. Kaplan.

Critical care physicians – also known as intensivists – are board-certified physicians who provide specialized care for critically ill patients. They receive advanced training and are experts who offer specialized care for people who have experienced major surgery or trauma, as well as those with other critical medical needs.

Additional information about disaster preparedness is available at www.sccm.org/disaster.
THE SOCIETY OF CRITICAL CARE MEDICINE

The Society of Critical Care Medicine (SCCM) is the largest nonprofit medical organization dedicated to promoting excellence and consistency in the practice of critical care. With members in more than 100 countries, SCCM is the only organization that represents all professional components of the critical care team. The Society offers a variety of activities that ensures excellence in patient care, education, research, and advocacy. SCCM’s mission is to secure the highest quality of care for all critically ill and injured patients. Visit sccm.org for more information. Follow @SCCM or visit us on Facebook.