How did trauma centers respond to COVID-19? New processes provide care to trauma patients while keeping providers safe

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As the COVID-19 pandemic emerged, trauma centers faced unprecedented obstacles to providing care for injured patients. A look at

steps taken by trauma centers in response to COVID-19 is provided by a survey in the January/February *Journal for Healthcare Quality* (JHQ), the peer-reviewed journal of the National Association for Healthcare Quality (NAHQ).

Trauma centers introduced new processes to optimize use of personal protective equipment (PPE), ICU beds, ventilators, and other limited resources, according to the report by David Bar-Or, MD, of ION Research, Englewood, Colo., and colleagues. "This information will be of value as trauma centers continue to respond and adapt to the pandemic, focusing on meeting the need for critical trauma services while protecting the health of trauma care teams," Dr. Bar-Or comments.

New processes to provide care at U.S. trauma centers, despite scarce resources

As the pandemic took hold in the spring of 2020, hospitals struggled to provide care not only for patients with COVID-19, but also for other groups of patients in need of care that couldn't be delayed. While the American College of Surgeons Committee on Trauma provided initial guidance on maintaining trauma center access, it was up to individual trauma centers to work out detailed processes for providing patient care.

"Trauma centers have a unique situation in that admissions for traumatic injuries are not scheduled and therefore cannot be cancelled or postponed," Dr. Bar-Or and colleagues point out. "Accordingly, they must prepare for an influx of patients with acute respiratory symptoms and continue care for patients with traumatic injuries."

To gain insights into how they met these challenges, Dr. Bar-Or and colleagues surveyed directors of six level I trauma centers in four states: Colorado, Kansas, Missouri, and Texas. The responses provided insights

into changes in key areas, including:

- *N-95 respirators.* Trauma centers faced shortages of essential N-95 respirator masks. Four of the six trauma centers surveyed reported reusing respirators after employing various methods of sanitization or sterilization. At some centers, trauma team members received only one mask per day or per week.
- *PPE.* Most trauma centers clustered patient contacts, with the aim of minimizing need for personal protective equipment (masks, gowns, respirators, etc). Four hospitals increased PPE use for all patients on arrival, while two provided PPE to symptomatic patients. One hospital had to request PPE from local government due to regional shortages.
- *ICU beds.* Five hospitals added ICU beds, while three designated a specific ICU for COVID-19 patients. All hospitals isolated COVID-19 patients in negative pressure rooms. In some cases, rooms or entire floors were converted to negative pressure.
- *Mechanical ventilation.* Two trauma centers created ventilator allocation protocols. Three centers reported daily tracking of ventilator use, while three requested additional ventilators in anticipation of a surge. The trauma centers reported varying changes to intubation protocols, and in the use of noninvasive ventilation approaches (CPAP or BiPAP).

The survey was conducted in the latter half of May 2020, as U.S. Coronavirus deaths passed the 100,000 mark. At that time, none of the trauma centers had experienced an overwhelming surge of COVID-19 patients. "This could be due to the actions taken to allow for additional treatment beds," the researchers write.

The survey provides a snapshot of how trauma teams and hospitals met the need for essential trauma care through the first months of the Coronavirus crisis. "This study summarized the processes that

participating trauma centers developed to protect the trauma patient and trauma care providers while providing optimal trauma care for patients—without specific guidance from professional organizations," Dr. Bar-Or and colleagues conclude. "This was possible even when faced with scarce resources."

More information: Laura Harwood et al. Processes for Trauma Care at Six Level I Trauma Centers During the COVID-19 Pandemic, *Journal for Healthcare Quality* (2020). DOI: 10.1097/JHQ.0000000000000285

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