Surgeons develop operation-triage plan to reduce OR volume during COVID-19 pandemic

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Within a month of the University of California San Francisco (UCSF) Health treating its first patient with coronavirus disease 2019

(COVID-19) on Feb. 3, UCSF surgeons began formulating a plan to respond to the pandemic and help manage the health care system's available resources. The comprehensive rapid response plan—one of the earliest surgical strategies for handling the outbreak reported in the nation—appears online as an article in press on the *Journal of the American College of Surgeons* website in advance of print.

The multitier plan was a collaboration between the UCSF department of surgery and the hospital's other departments, according to the article's authors. Their actions included reducing operating room volume by 80 percent to ensure adequate capacity to care for an anticipated influx of COVID-19 patients, safeguarding personal protective equipment (PPE), preparing for a dwindling workforce due to illness and other reasons, and providing regular communication to departmental staff about the pandemic.

"In two weeks, we have dramatically changed the way we approach surgical care and come together as a community for the greater good of our city and patients. The speed with which this has occurred is unprecedented," the authors write. "Our response efforts were early and aggressive, and we made tough decisions," said study coauthor Elizabeth Wick, MD, FACS, professor of surgery at UCSF. "We canceled elective surgical cases before any other facility in the country that we know of. By starting early, we figured out a way to focus on urgent operations before the situation became worse."

Prioritizing operations

On March 13, the American College of Surgeons (ACS) recommended that hospitals consider postponing elective, nonurgent surgical procedures, thus freeing hospital beds and other resources for COVID-19 patients. This recommendation left it to individual institutions to determine how to triage, or assign degrees of urgency to,

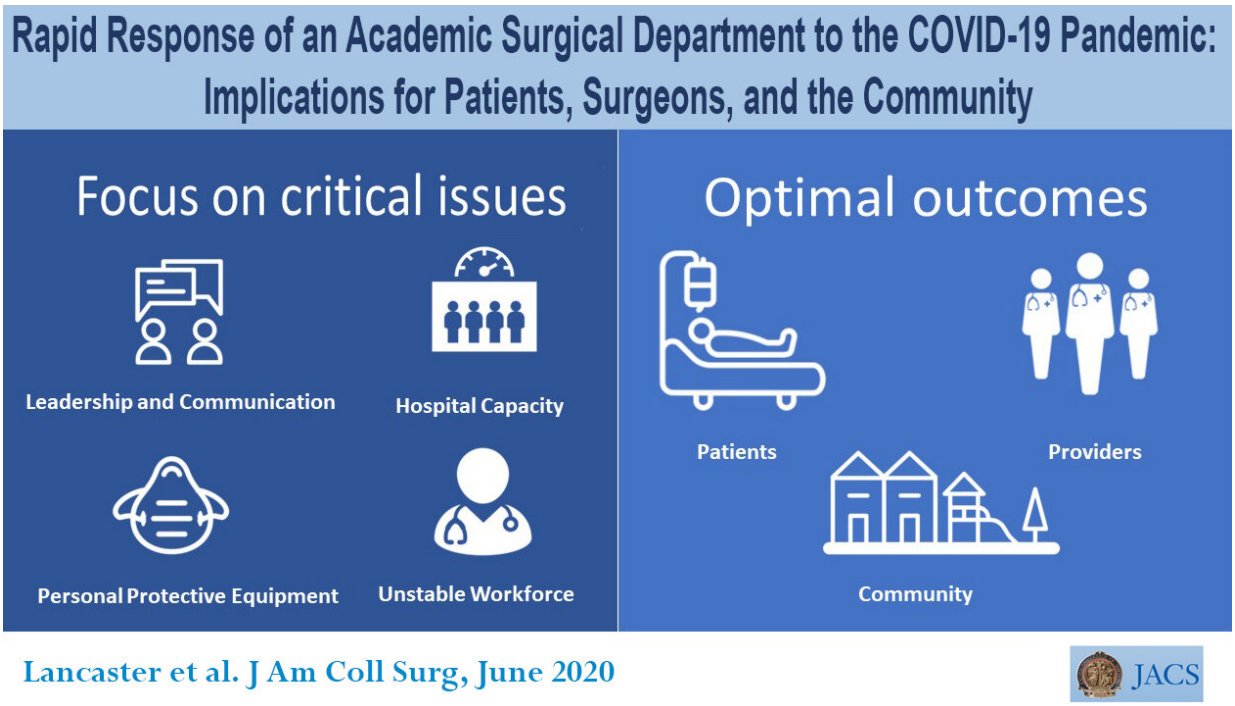
scheduled operations, and was followed with another guidance document on March 17 to aid in surgical decision making to triage operations. Even before then, in early March, the UCSF department of surgery had already developed triage guidelines for operations, according to Dr. Wick.

Initially the multidisciplinary team of surgeons defined essential surgical cases as those that would result in an adverse outcome (such as disease progression) if the patient did not undergo the procedure within seven days. The surgeons flagged the priority level in each patient's electronic health record, which Dr. Wick said is helping with organizing the case backlog.

As virus-related health care shortages in other countries became news, the surgical team quickly responded with changes. They reportedly began to prioritize cases based on not only the expected results of delaying the procedure but also the extent that the procedure would use hospital resources, such as ventilators and blood. Additionally, they considered whether nonsurgical treatment was an option.

From an initial 25 percent reduction in operating room volume starting on March 2, the surgeons succeeded in lowering the surgical volume by 80 percent in mid-March, Dr. Wick reported.

Because adjusting surgical care was a crucial step in managing available health care resources, she said surgeons had representation on all UCSF COVID-19 work committees.



Rapid Response of an Academic Surgical Department to the COVID-19 Pandemic: Implications for Patients, Surgeons, and the Community Credit: American College of Surgeons

Reassigning surgeons to optimize workforce

The department of surgery also developed a plan to optimize the workforce during the pandemic. For instance, the department reassigned some surgeons, based on their competencies, to work in inpatient units, the emergency department, or the system's Level I trauma center.

To minimize workers' exposure to the coronavirus, the department limited surgeons to work at a single hospital site in the health care system and reduced the number of surgeons on each surgical service daily. The same surgical team worked for several days straight so others would be available to work if a viral exposure occurred on that service,

Dr. Wick said.

Anticipating shortages of masks, the surgical department created guidelines for which types of PPE to wear in the operating room and when to wear single-use masks versus reusing them.

Putting patients first

It is too soon, Dr. Wick noted, to know whether their rapid response improved outcomes for patients and staff. She said, "We hope we took the necessary measures that will allow UCSF Health to continue to safely and effectively care for surgical patients requiring urgent operations as well as for COVID-19 patients."

She credits their ability to implement a rapid COVID-19 response to San Francisco's early city ordinances requiring residents to stay home and mandating hospitals to restrict visitors. These directives helped patients understand the need to have their nonurgent operations postponed, Dr. Wick said. She also commended strong departmental leadership that emphasized that everyone should prioritize "what was right for the patients."

Dr. Wick said her team members decided to quickly publicize their response plan hoping their experience would help other surgical facilities navigate "this uncharted territory." She said their plan is scaleable to other health care systems and smaller hospitals that have strong leadership and good communication about the purpose of the changes.

More information: Elizabeth M. Lancaster et al, Rapid Response of an Academic Surgical Department to the COVID-19 Pandemic: Implications for Patients, Surgeons, and the Community, *Journal of the American College of Surgeons* (2020). DOI: 10.1016/j.jamcollsurg.2020.04.007

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